COMPUTERS AND SOCIAL WORKERS

The Reception of a Computerised Client Record System in Social Services Fieldwork District Offices

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Declaration

I hereby declare that this thesis, together with the research and fieldwork on which it is based, is my own work.

29.1.82

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ABSTRACT

The thesis describes an investigation of the reception of computerised client information systems by social workers in fieldwork district offices of two social services departments. "Reception" of the computer system refers to its impact on the life of the offices as well as to social workers' attitudes to and uses of it.

It is shown that the reception is influenced by all four factors investigated - the design of the system, the method of implementation, the type of organisation of the district, and the characteristics of individual social workers. In each district the interactions of these and other factors resulted in that district's own particular type of reception of the computer. The most powerful influence in both departments studied was found to be the design of the system.

The thesis begins with a survey of computer applications in social services departments, and an analysis of relevant articles from the various journals read and contributed to by social services research officers. The abandonment of several early systems of the type studied was frequently put down to lack of social worker co-operation, but this thesis suggests that inappropriate system design is a more likely explanation.

The main fieldwork consisted of two detailed case studies, including 91 lengthy tape recorded interviews with social workers. The methodology (which is discussed in detail in an appendix) was influenced by Cicourel, particularly as regards the method of interviewing and the collection of different versions of the 'same' information.

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NOTES ON ORGANISATION OF THESIS

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(2) All section numbers preceded by "A" refer to sections of appendices. For example, A3.2.1 is a section within appendix 3.
(3) A detailed list of the contents of each volume appears at the start of the volume.
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CHAPTER 1 INTRODUCTION AND BACKGROUND TO THE RESEARCH

This chapter looks first (1.1) at the history of computer use in social services departments and more specifically (1.2) at the type of computer application with which the thesis is concerned - client record systems. Section 1.3 gives a brief introduction to the methodology and development of the research - these are described in detail in appendices. Finally the chapter introduces material concerning two of the factors which were considered as being likely to affect the reception of a computer system in social services departments - the background and belief characteristics of individual social workers (1.4) and the nature of the organisation (1.5).

1.1 COMPUTERS IN SOCIAL SERVICES

A number of factors contributed in the 1970s to the idea of bringing computers into the work of social services departments, a meeting of disciplines which was regarded as rather incongruous by many of the people involved. A considerable number of social work staff at all levels saw the computer as an unnecessary and sometimes threatening intruder into social work practice and principles. Systems analysts and other computer experts who had been brought up on designing programs for the use of the staff of the treasurer's department also faced a re-education when attempting to develop and implement a non-numerical 'information system' which relied for its successful operation on social work field staff as much as on trained administrative personnel.

One important factor was the establishment in England and Wales in 1971 of the new social services departments from the childrens' and welfare departments and parts of the health departments (the mental health and home help sections), and their subsequent rapid growth. Between 1972-73 and 1975-76 the expenditure on local authority personal social services rose from £355m. to £868m., and within these figures the expenditure on fieldwork almost tripled, from £47m. to £124m. (Department of Health and Social Security, 1977). The departments were further enlarged on April 1st 1974 (in Scotland, May

16th 1975) by local authority reorganisation. After both these major changes, many departments found themselves with a variety of existing methods and procedures for case recording, client indexing, caseload management, and collection of statistics. Additionally the new departments had much larger populations and a new range of responsibilities, and their information requirements both internally and for central government returns grew correspondingly. Departments were thus under a considerable incentive to think about setting up completely new administrative and management systems rather than attempt to work solely from what was available from the previous organisations (Seagrave, 1975a; Department of Health and Social Security, 1974). This was also a time at which many other local authority departments were beginning to look at questions of information collection and use (Jones and Handley, 1975). Indeed this was also true of local authorities as a whole, because of the growing emphasis on corporate management. Under this system the chief officers of the local authority departments, instead of regarding themselves as "the heads of autonomous and sometimes competing empires" (Brown, 1975) were expected to act as a policy making team for the authority as a whole, under a chief executive: "each member would share collective responsibility for overall policy, while retaining executive responsibility for carrying out that policy in his own sphere". Where this mode of organisation was introduced a new department was often also set up - frequently called the management services department - to provide facilities and expertise (such as in computing) which could be called on by the traditional departments, and also to conduct research at authority level.

The Seebohm report (1968), which led to the setting up of the social services departments, emphasised the value of research, and many of the new departments decided to appoint research officers or set up research /information/development sections. Although the job descriptions of research officers varied considerably between departments (for example in the extent to which they were there to answer questions for senior management and districts, or to take a more innovatory role) their responsibilities often included or evolved to include researching into ways of meeting the department's information needs and of coordinating, developing or replacing the many existing different sources and uses of information within the

department. A national body of research officers, the S.S.R.G. (Social Services Research Group), was set up in April 1972 (Thayer, 1973c; Borley, 1975) with its own newsletter and regional branches and meetings, and the spread of ideas and debate were also furthered by other journals such as BURISA (the Bulletin of the British Urban and Regional Information Systems Association) set up in 1972 (Willis, 1972), the Local Authority Clearing House Bulletin set up in January 1972 (Jenkins, 1973), occasionally in the social workers' journal, Social Work Today, and by various conferences and meetings. As early as March 1972 a conference to discuss possible computer applications in social services was held in Chester (Townsend, 1972), attended by research officers from a number of local authority social services departments, and by systems analysts from some local authority computer sections.

Up to about the time of local authority reorganisation, local authority computers were largely confined to the treasurer's department, and used for financial applications such as staff salaries and records, accounting systems, council house rents and rebates, and so on. At this time however the computer came to be seen more as a resource for the authority as a whole (Anon, 1974a). There were various reasons for this. The growth of the practice of corporate management made departmental heads more aware of the existence of major authority resources such as the computer, and conversely made the computer manager more aware of the possibilities for expansion into applications in other departments (Scrase, 1975). Where management services departments were set up, they normally took over responsibility for the local authority's computer section from the treasurer's department, and since the role of management services was to service other departments this led to the computer now being seen as a resource of the authority rather than just being for the use of the treasurer and purely for financial applications. As computer facilities grew larger and became a major capital investment for the local authority, departments would often compete to get the next major application of the computer. Thus, often at relatively low cost to themselves (where computer charges were met by a central fund), they could computerise their existing administrative, financial and information systems or introduce new ones; and their position within the corporate structure would be enhanced by virtue of their becoming

a major user of the authority's computer resource, and of the information it supplied to them (Gould, 1976). At first such applications in other departments tended to be financial (e.g. rent rebates and accounting in housing, and home help payments in social services), but as local authorities purchased larger computer facilities and grew in expertise, and as the possibilities for these basic applications started to become exhausted or limiting, many computer sections began to look to non-financial applications such as house-letting, council minutes, client records for social services, library systems, and management information systems of various kinds. Evidence of this process within social services is given in chapter 2.

A final factor was the rapid advance during the 1970s of computer technology in general, and of computer expertise within local authorities, so that computers were no longer seen as being simply glorified calculating machines, but also as able to process large amounts of non-numerical infor mation and to support networks of interactive terminals (Anon, 1974a). The development of this process in social services is also clearly demonstrated in chapter 2. Knowledge and expertise about such possibilities for local authorities was spread through the meetings, publications and working groups of bodies such as LAMSAC (the Local Authorities Management Services and Computer Committee) and LGORU (the Local Government Operational Research Unit). LAMSAC, for example, which was financed jointly by central and local government, was specifically set up to advise local authorities on computer use (and on other new management techniques and facilities) and to provide a means of coordination and communication between them on such matters. It is now a very active organisation, with 12 regional offices. The January 1977 LAMSAC newsletter, for example, listed 10 courses being held during the following 2 months; and it gave details of eight working parties set up by the LAMSAC computer panel, composed largely of local authority representatives and dealing with a wide variety of aspects of local government computer use.

Computer companies were of course quick to see and to encourage (see 5.5.2a, for example) the new opportunities provided by non-numerical applications for selling more computers and peripheral equipment (see glossary for meanings of computer terms such as "peripheral"). Whereas the addition of a new financial application to an existing

batch-processing computer installation might need little if any new equipment, the first on-line application installed would necessitate upgrading of existing hardware to cope with the additional systems software required, and with the increased need for reliability (so that terminal users would not be faced with frequent and unnecessary stoppages). Each subsequent major on-line application would, in addition to the possible further upgrading of the central computer facilities, require the rental or purchase of visual display units for the department concerned, and if local district offices of the department were to be thus served (for example in housing, social services, or libraries), then 10 or more VDUs (visual display units) might be needed.

1.2 SOCIAL SERVICES COMPUTERISED CLIENT RECORD SYSTEMS

The early applications of computers in social services were, as hinted above, usually intended solely or largely to assist administration in very specific areas, often financial. Common applications included home help staff records and/or accounting, foster parents accounting, and analysis of surveys of chronically sick and disabled people. A small number of such applications had even been implemented in the days of the old welfare and childrens' departments and these were in some cases carried forward into the new social services departments. However experiment and interest in the use of computers in social services soon came to focus on department-wide client record systems. The number of departments involved in such developments to a serious extent was small, but, amongst them, debate was vigorous. In addition to client records systems, a small number of other advanced applications of computers in social services have been experimented with, mainly from the mid-1970s onward. These include computerised advice on entitlement to welfare benefits, analysis of cases to provide 'model' cases which could be looked up by social workers wanting guidance on how to handle their own cases, and computer models of the department's functioning to assist in planning. These changes are documented in chapter 2.

Despite the interest and effort expended, several of the client record systems and other advanced applications were notably unsuccessful, and this led to further debate in journals and informal papers and discussions about the requirements for a useful and/or acceptable computer application in social services. A number of departments, having considered the option, came out against computerisation of client records. The results of a postal survey of social services computer applications and developments in 1976 are contained in chapter 2. Chapter 3 surveys the debate which took place during the 1970s.

No two client record systems have exactly the same intentions as far as their designers are concerned, but a general picture does emerge. The purpose of the system usually includes the provision of information to assist staff at all levels, ranging from caseload management by individual social workers and their seniors to statistics required by headquarters staff for planning, for committee reports, and for government annual returns. Another commonly stated aim is to improve the day-to-day operation of district administration and reception work by replacing manual card indexes of clients with computer printouts and information from an on-line computer terminal. Most systems also include or plan to include information about sections of the department other than fieldwork, so that management can have more complete information about the work of the department as a whole, and so that different sections of the department can cooperate better in the interests of clients. For example, the residential section would record details of inmates, vacancies, etc., and this information could be available to fieldwork, headquarters, and other sections of the department with a use for it. Another use of the VDUs is in sending messages between district offices, and between headquarters and districts, thus reducing the load on the internal mail system and providing a quicker service. Overall, the designers of these systems saw them as providing information which was more accurate and more quickly and easily obtained than with conventional manual systems, and also as providing information which previous manual systems had been unable to because of the amount of clerical work involved (see 5.5.1 for example).

The following list shows the types of information intended to be provided by a typical client record system in a department where VDUs

linked to the central computer are available in district offices, and where the only sections of the department currently computerised are fieldwork district offices and headquarters. In the list "D" refers to information for districts and "H" to information for headquarters.

DH 1. Interrogation of VDUs for details of individual clients.

2. Printed reports from the central computer -

DH a. Index of all clients known to the department.

D b. Up-to-date front sheets for social worker casefiles.

D c. Caseload lists for social workers and seniors.

D d. Reminder and review lists for social workers and seniors.

DH e. Statistics for planning- referral analyses, district comparisons.

H f. Statistics for central government (DHSS) annual returns.

DH g. Ad-hoc information specially requested.

The basis of a computerised client record system, as its name would imply, is a computer file of client records. The amount of information held on each client varies, but has so far been largely restricted to matters which are fairly easily categorised and are intended to be of use for reception and management purposes - the sort of information that might otherwise be held on a district's card index and on a front-sheet in casefiles. Input to the system is primarily provided by social workers in district offices, who are responsible for completing the referral forms, change-information forms, and other requisite forms. The information from these is then typed into the computer terminal by administrative staff and/or social workers in the district offices or, in the absence of local terminals, by punch or teletype operators in the computer section.

1.3 METHODOLOGY AND DEVELOPMENT OF THE RESEARCH - AN INTRODUCTION

The development of the research in terms both of the narrowing down of the topic and also of deciding the most appropriate methodology, are described in detail in appendices 1 and 3. In the present section some of the key issues are mentioned, to provide sufficient background for those readers whose main interest is in the results of the study.

1.3.1 Choice of Topic

In summary, the research looks at the various factors which work together to determine the reception of a computerised client record system in fieldwork district offices. "Reception" refers not only to attitudes towards the computer and to uses made of it; but also to the closely inter-related matter of its effects on the life of the district office. Whilst it might appear inappropriate to use the word "reception" to include effects of the computer, it should be remembered that the performance of the computer in practice both affects and is affected by attitudes to and uses of it. If social workers do not complete the forms then the computer cannot function effectively. The reception of the computer is a complex process involving attitudes, district organisation, and the nature of the computer system itself.

The factors chosen for investigation are, primarily, the organisation of the district office, the backgrounds and beliefs of the social workers, the nature of the computer system, and the history of its implementation. However the method of investigation used was intended to be sufficiently open-ended to allow any other important relevant factors to be identified. The topic was chosen because it was of current interest to many social services departments, because a number of failures had led to considerable debate as to what was possible and what was desirable, and because of my own experience and interest both in computers and in social services. It was decided to concentrate on the reception of the computer at district level because it is social workers who have to provide the basic input to the system, and because the failure of early systems (3.3,3.4) has often been put down to the active or passive non-cooperation of social workers (though whether or not this was justified where it occurred was less often discussed). Conversely, the benefits for social workers and districts are often given as a, or the, major reason for

the introduction of the computer in the first place - though it has also been argued that these benefits are sometimes over-emphasised by those involved in the introduction, in an attempt to secure the cooperation of social workers. A more detailed description of the background to the choice of topic is given in an appendix (A1.2).

1.3.2 Case Study or Survey

It was decided to conduct a detailed case study of two departments with advanced client record systems rather than to undertake a wider survey. Apart from suiting my own research inclinations, the case study approach was largely dictated because there were very few such systems either operational or in an advanced stage of development (see chapter 2). Additionally no detailed research on this topic had been done previously and so there was little indication of what factors might turn out to be particularly significant; it was hoped that periods of fieldwork on the spot would provide a proper insight into this. The two departments selected were in similar industrial metropolitan boroughs, and in both of these I spent a few days at departmental headquarters, then five to seven days in each of four district offices, and finally three or four days at headquarters again. A more detailed justification of the reasons for using the case study approach is given in an appendix (A3.1.1).

1.3.3 Methods of Investigation

The methodology was influenced by the work of Cicourel (1963,1974). Information was collected mainly through interviews and observation, where possible collecting information on the same point by more than one means. For example, in addition to asking social workers what they thought of the computer forms I also observed them completing a form. In addition to asking for comments about the old manual card index which was replaced by the computer, I also went through a sample of cards from it.

Information on the computer system and the history and intentions of its introduction was collected primarily by use of documentary material and by interviews with headquarters staff, supplemented by the taped interviews with social workers (from social work assistants up to district officers) and district administration staff. Information on the current use of the system and its place within each

district was obtained mainly by the interviews with social workers, observation of records and form completion, and interviews with district administrative staff, supplemented by interviews with headquarters staff. Information on social worker backgrounds and beliefs was obtained by fixed-question instruments administered after the taped interview and by self-completion sheets about training, experience in social work, and other background matters. Information on district organisation was obtained in the interviews with social workers and administrative staff, a second interview with the district officer specifically on this subject, and by observation - for example of office layout and of the methods of case allocation.

The most important (and the most time-consuming) of the above methods was the taped interview with social workers, concentrating on use of, experience of, and attitudes to the computer system and its introduction. The use of tape recording rather than relying on fixed-question instruments, was again in part an influence of Cicourel. Whilst each interview included various fixed questions (whose exact phrasing was sometimes altered according to what went on in the interview and what I knew of the person already - such as their position), supplementaries and probes (some pre-prepared, some not) were frequently used, and the respondent asked to give examples and clarifications. By these means I hoped, amongst other things, to confirm that I had understood what the person meant; to avoid imposing too many preconceived notions about particular issues or about what the issues were on the respondent; to elicit points considered by particular social workers to be important but not covered by the questions which I had devised from my background reading and pilot study; to ensure as far as possible that different respondents placed the same interpretation on questions; and to get a better picture of the interactions between social worker attitudes, organisational structure, and the computer by, for example, allowing or encouraging social workers to relate examples and anecdotes. The approach is further explained, justified, and illustrated with examples from the interviews in the methodology appendix (A3.2), as is the method employed in analysing the interviews.

1.4 SOCIAL WORKER CHARACTERISTICS

In this and the next two sections the literature which forms a background to the research will be introduced. Some of this is not specifically about social services, as little of the writing in social work journals was of direct relevance. But although the literature described is drawn from wider areas, specifically the study of organisations and the study of the beliefs of professionals and, in particular, beliefs about social work, it provides the background against which the impact of the computer on, and the reception of the computer by, district offices and individual social workers was investigated.

What discussion there has been in social services and related journals on computerisation has dealt mainly with the practical issues that have arisen, and this literature will be reviewed in chapter 3. In explanations of the failures of early systems, and in discussions of the conditions necessary for the successful implementation of a social services client record system, the reactions of social workers have often been pointed to as a critical factor and certainly, since social workers provide the basic input to the system, their practical cooperation is essential. Much of the literature on organisations (for example see 1.5.3 below) emphasises that in explaining what goes on within them it is insufficient to look solely at their formal structures and objectives, and that the backgrounds and beliefs of their members are also important factors. In this section, 1.4, I will therefore look at background and belief characteristics of social workers so that later on (chapters 6 and 7) it will be possible to see how far, if at all, such individual characteristics of social workers were related to their use of and attitudes to the computer. Relevant material from the literature on organisations will be described in the next section (1.5).

Gouldner (1957), in an investigation which will be referred to below, distinguishes between latent and manifest roles and identities in an organisation. He first points to the existence of "culturally prescribed categories" (such as teacher, boy, negro) which are learned during the course of socialisation. By observing or imputing to a person various aspects of behaviour, appearance, etc. one is then able to "pigeonhole" them as belonging to one or more of these categories. Such a category Gouldner calls a social identity; whilst a social role

is the "shared set of expectations directed towards people who are assigned a given social identity". A manifest social identity is one which is "consensually regarded as relevant" in a given setting, as opposed to a latent social identity, which is seen by group members as being "irrelevant, inappropriate to consider, or illegitimate to take into account". Thus in the classroom which Gouldner studied the identities of "teacher" and "student" were consensually regarded as relevant - they were manifest; whilst those of "mature", "young", "female", "male", etc. were illegitimate to take into account - they were latent. In a social services district office the identities of "senior social worker", "unqualified social worker", "member of the intake section", etc. are manifest, whilst those of "female", "old", "radical" etc. are latent.

1.4.1 Cosmopolitan and Local Identities

Gouldner, from an investigation of earlier literature, identifies three variables - loyalty to the employing organisation, commitment to specialised or professional skills, and inner/outer reference group orientation - which have consistently been seen as important in the study of modern complex organisations. On the basis of these he hypothesises two latent identities - cosmopolitan and local - which he suggests are of general significance for the study of such organisations. The definitions of these two identities in terms of the three variables are as follows:

VARIABLE	LATENT IDENTITY	
	Cosmopolitan	Local
Loyalty to the employing organisation	low	high
Commitment to specialised or professional skills	high	low
Inner/outer reference group orientation	outer	inner

Gouldner then points out that latent identities are important in influencing behaviour within organisations. For example, people with different latent identities will have different reference groups or value commitments, which may lead them to behave differently even if holding the same manifest identity, or which may lead to conflict with their manifest roles.

Having explained this theoretical investigation, Gouldner goes on to describe his own research which confirmed the existence of these latent identities amongst the staff of a small liberal arts college. He also reports differences between cosmopolitans and locals in their behaviour within and attitudes to the organisation; so confirming the importance of these latent identities for organisational studies. Cosmopolitans, for example, were more likely to reject formal rules of the organisation than were locals, and they appeared rather less likely to participate in the running of its administration. Gouldner's fieldwork also made clear that the concepts of local and cosmopolitan were general categories, and often needed to be subdivided to make full sense of his data. Thus although cosmopolitans generally had lower influence in the running of the college administration one sub-category of cosmopolitans did not have low influence.

The "general significance" which Gouldner placed on the cosmopolitan/local distinction in the study of modern complex organisations, and the fact that these latent identities affected behaviour within organisations, made it seem likely that social workers' attitudes to and uses of a computer might depend in part on such factors. A study by Hebden, Rose, and Scott (1969) of attitudes to computerisation by managers in manufacturing industry suggested that cosmopolitans were in general more favourable to computerisation than locals and that high educational level in particular was strongly related to this. It is not obvious that this would be true amongst social workers. Firstly, it is likely that Hebden's subjects were mainly qualified in subjects such as business studies or applied or pure science, courses which often entail using computers or discussing their value, or at least looking forward to advances in technology. Social work training on the other hand is unlikely to mention computers at all - indeed it has often been criticised (e.g. Holman, 1970) for inadequate consideration of research and evaluation - and could rather reinforce beliefs such as some of those discussed later in this section which in themselves might be seen as conflicting with computer use. It will therefore be important to look at content as well as amount of education and experience.

For various reasons (A3.4.1a) it was decided not to attempt to use the concepts cosmopolitan and local as they stood to differentiate

between social workers, but rather to use the more basic characteristics from which these concepts are built up. Thus from the cosmopolitan and local concepts it was decided to ask questions about education, training, experience, future career, and membership of professional organisations. The derivation of questions and variables from these and other concepts mentioned below is explained in A3.4.

1.4.2 Professional Identity

A further latent identity often claimed to influence the behaviour of members of organisations - and in particular that of social workers - is that of "professional". There has been much debate as to whether or not social work is a profession. One of the best known contributions was from Etzioni (1969), who classed social work as a "semi-profession", claiming that it does not satisfy all the requirements looked for in a full profession. Certainly, there is a professional association (BASW - the British Association of Social Workers) which increasingly is influencing entry - for example it has seats on the Central Council for Education and Training in Social Work which certifies courses which may grant the Certificate of Qualification in Social Work, CQSW; and such qualifications are becoming more and more a condition for employment in local authority social services posts. The association has issued discussion papers such as "A Code of Ethics for Social Work" and "The Inalienable Element in Social Work" (which seeks to identify "the quintessence of social work"). On the other hand, far from all social workers are trained - one estimate suggested that in 1975 only 40% were (Warham, 1977); and community sanction of the social workers' claim to an esoteric body of knowledge and to an authority based on it is far from total - Brown (1975) points out that a social worker's court report is more likely to be questioned than is that of a doctor. Doubt exists amongst practitioners too: in late 1976 a social services director resigned his founder-membership of the association over its role in a dispute concerning the appointment of a director who was not professionally qualified, attacking its "almost paranoid concern ... with the concept of 'professionalism' in social work". Even the claims of the professional organisation itself to a distinct body of specialist knowledge are not made very strongly. A working party of the association, whose objective was "to define the social work task",

reported (BASW, 1977):

> "There is no single role which is unique to social work - non-social workers will quite properly carry out each of them. Similarly, the performance of any particular role does not in itself make that activity 'social work'. It is not the roles alone, therefore, which determine whether or not social work is being undertaken. The context in which these roles are performed, the constellation of purpose, values, knowledge and sanctions, is the determining factor." (p.37)

There have been two main approaches to the definition of a profession. As Ritzer (1971) puts it: "To some professionalism is merely a label used by occupations to win power and prestige, whilst to others, professions are conceptualized as occupations with ... core characteristics". The question of the extent to which social work should be classed as a profession is a rather abstract one which, despite the introductory comments above, is of little relevance to this thesis. However, related to the two approaches to defining a profession, two aspects of the study of professions are of interest here and will be discussed in (a) and (b) below.

(a) Characteristics of a professional

The first aspect concerns the extent to which an individual may be considered to have the characteristics of a professional. Ritzer, in the same article, says that this question has been largely ignored whilst debate has focussed on how far whole occupations may be considered professions:

> "All occupations may be placed on a continuum ranging from the non-professions at one end to the established professions at the other. But once you pinpoint the position of an occupation on this continuum, the question remains of the degree of professionalism of individuals in the occupation. Medicine falls on the professional end of the continuum, but individual doctors are likely to vary in their degree of professionalism." (p.61)

This point is very relevant to this part of the thesis, where I am seeking to identify characteristics which differentiate between social workers. However, rather than attempting to derive a single continuum from a professional individual to a non-professional one, on which to locate individual social workers, I have used the various elements ("core characteristics") used in older definitions of a professional

(this was done for the same reasons that the elements making up cosmopolitan and local concepts were used rather than the concepts themselves - see 1.4.1 and A3.4.1a).

The most obvious distinguishing characteristic of a professional individual is membership of a professional association. However, in one of several well-known attempts to define the "underlying characteristics" of a professional Blau and Scott (1963, p.60-63) list six further factors:

(i) The professional is trained to be an expert in a limited and specialised area.

(ii) The professional's status is achieved by performance rather than by who he is - his age, sex, or connections for example.

(iii) Decisions of professionals are based on "objective criteria (derived from a body of specialised knowledge) which are independent of the particular case under consideration".

(iv) The professional's relations with clients eschew emotional involvement, "to protect the client from being emotionally exploited and the practitioner from being torn apart by sympathy for his troubled clients". The question of how far this is accepted by social workers was raised by Halmos (1965) outside the context of professionalism. He was concerned with the contrast between social work as a skill and social work as a moral and compassionate activity. He lists six elements which go to make up the beliefs of a social worker, and several of these related to whether social work is "an expressive act of caring and helping" marked by "involvement" and "spontaneous affection", or whether it is "objective and detached" so that social workers should be "impervious to the emotional provocations of their job."

(v) Decisions of professionals should be based on the client's interest rather than the practitioners self-interest. Blau and Scott contrast this with business decisions where they say self-interest is considered morally legitimate. They were talking here primarily about the U.S. where professional services were normally rendered in exchange for a fee from the client, and where conflict between client and practitioner interest was correspondingly high (for example - see Ehrenreich, 1970). In a British social services/work department however the social worker is not economically dependent on the client and hence the conflict here does not arise to a serious extent. An

alternative conflict does arise however, since the modern social worker is dependent on a large employing organisation which may make rules and place demands which conflict with the client's interest as defined by professional skills and expertise. This leads on to Blau and Scott's final characteristic:

(vi) The existence of a distinctive professional control structure to which the professional is subject. This operates in two ways. Firstly professional conduct is guided by the body of expert knowledge and code of ethics instilled during training. Secondly this self-control is supported and enforced by colleagues since they have a personal stake in the reputation of the profession. The question of the apparent conflict between this professional control and the rules and other controls of the employing organisation has been much discussed both in general and in relation to social workers. Several writers have claimed that in the latter case the conflict is more apparent than real. Brown (1975) states that "there is no real incompatibility between administrative accountability and the exercise of professional discretion within a defined and agreed field". There is evidence from research studies that this is accepted by most social workers, although according to Brown "some of the younger and more highly trained (social workers) have a fairly strong anti-bureaucratic viewpoint". The Brunel study of social services departments (1974) found that it was widely accepted amongst social workers that their position was one of "delegated discretion" - in other words that although they were allowed to exercise considerable discretion and judgement in their work with clients, the director took ultimate responsibility for their decisions. Beswick's two case studies (1975) - which referred solely to rules and discretion in connection with the granting of cash aid to families under section 1 of the Children and Young Persons Act - found that most social workers wanted "clearer pronouncements on departmental policy" and almost half of her (small) sample favoured "stricter rules". Similar conclusions were reached by a study (Toren, 1972) in the U.S.A. which concluded that whereas social workers <u>may</u> be guided by norms and values from their professional training, they invariably <u>are</u> guided by administrative rules and superiors within the agency. This study was referred to by a working party of the British Association of Social Workers (BASW, 1977) who were concerned about its implications for social work:

"Professional values should form the ethical base of a social worker's practice. It is disturbing that agency values might be more influential as they may not necessarily be wholly compatible with professional values." (p.24)

Confidentiality - a professional value

A further characteristic of professionals, which is not used as a defining one by Blau and Scott but which is nonetheless present in all the main professions, is the existence of a confidential relationship with the client. The BASW working party (1977) stated that one of the "professional values which should underpin social work practice" is "to respect the confidentiality of information concerning a client". The reason why a person goes to a professional is normally for some type of personal advice or help. In order that the professional gives appropriate help or advice it is essential that the client gives full information about his or her situation, and for this to happen the client must be sure of confidentiality. This characteristic, however, is a second example of one which may result in conflict when the professional is also the employee of a large organisation such as a social services department. This can happen in several ways.

Firstly, if, as the Brunel study suggested, the social services director is indeed finally accountable and the social worker in a position of delegated discretion, then it is likely that the degree of control required by the department (through supervision, reports, etc) will have implications for and set limits to the extent of confidentiality between client and social worker. Many social workers do not in fact accept that there is a conflict here, since they consider that sharing information with fellow professionals in the agency is not a breach of privacy, and is something the client expects or should expect. Indeed the working party on confidentiality of the British Association of Social Workers (1976) stated:

"The client's relationship is to the agency of which the social worker is a representative, and information passed by the client to the social worker is necessarily shared between colleagues. This is understood by most clients." (p.16)

Secondly, conflict can arise because the fact of the department being a large modern organisation will mean that information about clients is required for planning and research; and here again these requests may pose a threat to confidentiality. There is also the problem of

social workers needing to share information with people outside the agency who are involved with the same client. This may include professionals such as doctors but it also includes people in other agencies - such as housing or social security departments - which are not regarded as professional and yet can certainly make a claim to be working in the interests of the client and so to need to share information. Such conflicts are implicitly recognised in "A Code of Ethics for Social Work" (BASW, 1972) which was adopted at the 1975 BASW annual general meeting and in which two of the "principles of practice" for the social worker are:

> 11. ... "He respects the privacy of clients and confidential information about clients gained in his relationship with them or others."
>
> 12. "He will work for the creation and maintenance in employing agencies of conditions which enable social workers to accept the obligations of this code."

(b) Professions as interest groups

The second aspect of the study of professions which is of particular relevance relates to the more recent attempts to define professions in terms of their interaction with external forces. Friedson (1971) says:

> "Professionalisation might be defined as a process by which an organised occupation, usually but not always by virtue of making a claim to special esoteric competence and to the concern for the quality of its work and its benefits to society, obtains the exclusive right to perform a particular kind of work, control training for and access to it, and control the right of determining and evaluating the way the work is performed." (p.22)

Warham (1977) summarises the dynamic nature of professions, and the changing context within which they operate, thus:

> "Like any other occupation, a profession is a social process or movement, which is in a constant process of change within changing social, political, and technological contexts." (p.16)

The picture given by the classical definitions of professions and of professionals, in terms of "core characteristics", as in that of Blau and Scott above, rather implies a static and "ideal-type" viewpoint. Such a model is useful when we wish to ask how near a particular occupation is to fitting the ideal type of a profession or, as in (a)

above, in identifying those respects in which a particular individual fits the model of a pure "professional" person. However as Warham (1977) points out it is insufficient if the intention is to look at the complete story of the working and development of a profession or the activities of a professional, in the context of the real world.

The inadequacy of using only the ideal-type approach for this purpose will already have become apparent in (a) where it was seen that the organisational context plays an essential part in determining how far the social worker is or is not able to adhere to professional characteristics - for example those regarding the use of discretion or the observance of confidentiality. Etzioni (1969), in describing social work as a semi-profession, used as part of his evidence the fact that employing organisations limit the professional autonomy of social workers by means of chains of accountability and by not allowing full control for staff over the information which they gather in their work.

In addition to such organisational constraints on a profession and on professionals there are many other external influences which make it important to look at the whole context in which the profession operates. The 1970 Local Authority Social Services Act, a political change, had profound implications for the professional organisations and for the lives and careers of individual social workers. Increased unemployment, a social change, affects not only what social workers do in their work, but even the numbers of people wishing to become social workers. Similarly the introduction of computers, a technological change, could both reduce and increase (in different ways) social workers' control over information regarding clients. External factors like these may force changes in the profession, create opportunities for it to expand its sphere of influence and expertise, and cause it to try to defend its existing interests and sphere of influence.

In the context of this thesis, where the main focus is on the impact of and the response to the computer at the level of the day-to-day work of social workers in district offices, the part of Friedson's definition of professionalisation which is of particular interest is its last phrase. Who holds the right to determine and evaluate the way in which work is performed? Friedson later expands on this: "Control over work performance is of course the basic prize over which occupation and administration contend in particular work settings" and

"For professional workers the issue is whether they are able to exercise control over their work and its outcome."

One might therefore expect that the introduction of a computer, by emphasising the "administration" side, would strengthen administrative control over the social worker at the expense of professional autonomy, leading to resistance by social workers who regarded themselves as professionals with the right to control their own work.

1.4.3 Characteristics specific to Social Workers

In addition to the cosmopolitan, local and professional identities, which differentiate members of many modern organisations, there are likely to be attitudes and beliefs which are specific to the particular occupation in question and which provide another useful means of differentiation. In the case of social work, there are differences of opinion as to what social work is, what social workers should be doing in general, and what they should do in various specific situations. Several of the characteristics mentioned in the previous section (for example 1.4.2a(iv)) have been described elsewhere solely in relation to social workers per se, rather than to social workers as professionals, as cosmopolitans, etc.

In attempting to discover such specific differentiating factors I again referred to social work literature, and having thus identified various areas I confirmed these (together with those described in the previous section) in discussions with two social work lecturers as being worth using in my study.

There is more than one way in which beliefs about social work can affect attitudes and reactions to computerisation. In the first place the social worker's belief may in itself affect his or her reaction: a social worker who places great store on confidentiality may distrust computerisation if he or she fears that it will make client records more widely accessible, or may welcome it if he or she believes that it will provide greater security for such records. Secondly, it has been pointed out by Smith and Harris (1972) that:

> "The organisational structure of a social work department will derive at least in part from the ideologies about social need held by its professional practitioners." (p.28)

For example, the way in which cases are filed and allocated in an office is likely to depend on whether the workers in that office see

the primary unit of need as the individual, the family, or the community. Thus it should be noted that changes in office routine which are entailed in the introduction of the computer may conflict with the beliefs implicit in those routines.

Some models of social work - a brief sketch

It will be useful at this point to give a very brief account of some of the main approaches to social work in recent years, since important characteristics differentiating between social workers are shown up when this is done. This account is indebted in part to Beswick (1975).

The "psychosocial" or "diagnostic" approach (Roberts and Nee, 1970) has been one of the main approaches used. It relies heavily on the medical model of diagnosis and treatment: the social worker uses psychoanalytic and counselling techniques to diagnose and treat individual clients' problems. Beswick says:

> "The client, unknown to him ... was awarded various levels of maturity in different spheres of his or her life ... The 'treatment' ... was for social workers to enable them to 'grow' and to 'mature'". (p.30)

Thus there is an emphasis on inadequacy in the client compared to the normal person and on the skills of the social worker. The approach often relies on building up a long term relationship of trust with the client. This approach was exemplified in the book "Introduction to a Social Worker", published by the National Institute for Social Work Training (1964).

In the 1960s attempts were made in the U.S. to evaluate the effectiveness of this form of social work. Sinfield (1969) describes one influential study, Girls at Vocational High, which concluded, albeit very cautiously, that "the conclusion must be stated in the negative when it is asked whether social work intervention with potential problem high school girls was in this instance effective". The authors pointed to various new and "as yet less professionally fashionable" directions in which they thought that social workers might now usefully experiment.

A different approach is the "problem-solving" or "functional" one (Roberts and Nee, 1970) which concentrates on concrete objectives and clearly defined short term procedures rather than on practice

deriving from psychological theories. Techniques here include discussing objectives and progress explicitly with the client, establishing contracts with the client, and agreeing in advance with the client that casework will be restricted to a limited period.

Other writers see the individual client as part of a broader context - the family, the local community, or society as a whole. The influential Seebohm report (1968) was based on the premise that "the family and the community are seen as the contexts in which social problems arise and in which most of them have to be resolved or contained". Previously, although there had certainly been some recognition of the family context, at least in the case of so called 'problem families', yet "the general consensus of opinion was that the parents of these families were 'immature'" (Beswick, 1975). So although social workers would see to material needs such as clothes where necessary, their inquiries tended to stop with the conclusion that "the cause of these families' disorganisation lay with the personality or mental defects of the parents" (ibid).

A wider context was recognised by Kahn (1973) who stated that "industrialised society generates new problems and new needs". Beswick (1975) felt that clients

> "might be experiencing a combination of hardships and insecurities inherent in industrialised society, with respect to their employment prospects, their access to the housing market, and their ability to raise from all available sources an income sufficient for the family's basic requirements." (p.32)

This societal perspective on social work gives rise to two quite distinct approaches: the "systems" approach and the "radical" approach.

The systems approach envisages a range of levels for social work intervention - for example at social policy, neighbourhood, family, or individual levels - depending on which such "system" one is attempting to influence. Beswick states that it "implies a consensus of shared values and norms in society and within a social work agency". This approach shares with the psychosocial one the idea of the social worker as the expert in identifying and tackling the problem, and according to Beswick it has had "considerable influence" on social work tutors. An example is the paper by Leonard (1973) in the conference report "Management and the Social Services."

The radical approach, as exemplified by Holman (1973), also sees individual problems very much in a social context, but it emphasises the importance of clients - and of poor people in general - recognising and tackling the problems themselves. The role of the social worker then is more one of facilitating this. Their task is to "politicise clients in the sense of encouraging them to perceive their conditions as the result of societal forces rather than individual inadequacies" and to enable them to become "as adept at handling bureaucracy as are members of higher income groups." (ibid p.444)

Differentiating factors

From this brief sketch certain factors which differentiate between social workers are apparent:

(a) One such is the question of the respective roles of client and social worker in assessing and tackling social problems. Smith and Harris (1972) distinguish between "the expert ideology which regards need as a subject for definition largely independent of the views of the client, and the client ideology where the prime reference is to the client himself". The psychosocial and systems approaches reflect the first of these paradigms, whilst the functional and even more so the radical approaches give greater emphasis to the client's role. Some of the discussion in professional circles has tended to skirt this question. Smith (1971) points out the tensions in the Seebohm report which on the one hand recognised that much 'social work' could be provided by neighbours and the local community and that clients should have a greater control over bureaucratic and professional power, but on the other hand argued that social work was a matter for skilled professionals and pointed to the need for professional autonomy for social work teams.

(b) Secondly is the 'unit of need' - again pointed to by Smith and Harris. In the department which they studied most social workers retained the "individualistic ideology" implicit in the psychosocial and to a lesser extent the functional approaches, although some did see the family as the basic unit in which problems arose and should be tackled, and a few mentioned the context of the local community.

(c) Relating closely to the two previous factors is the distinction between specialist and generic social work. When the psychosocial approach was predominant social workers were seen very much as specialists - for example in child care or mental health. However,

the increasing emphasis on a broader definition of the unit of need suggested the involvement of one 'generic' social worker with a family, rather than allocating two or more specialist social workers to different individuals in the same household. The unification of the Childrens, Welfare, and (part of) Health departments into a generic service in 1971 following the 1968 Seebohm report signified official recognition of this broader definition. The "Delivery of Services" study by the Department of Health and Social Security (1973) attacked a "widely held view that the Seebohm reorganisation had set the scene for the abandonment of specialist social work skills. This view has gained such currency", the report went on, "that it has become a damaging factor in relations between social work and other professions". Since reorganisation this debate has continued, with many people arguing for specialist workers within the generic framework of the agency.

1.4.4 Social Workers and Paperwork

The standard of recording in social services has long been a matter of comment. The 1978 Department of Health and Social Security report "Records in Social Services Departments" lists three investigations which

> "tell the same story of a continuing lack of basic data about clients ... upon which judgements about policies and choices of service delivery can be made. The repetition of this evidence over a span of 4-5 years now prompts the issue of this report". (p.1)

It discussed how social workers viewed records:

> "At one extreme records may be regarded as a privately kept personal note of a continuing relationship; sometimes they are tolerated as an administrative incursion necessary 'to keep the books straight'. At the other extreme, they may be regarded as unnecessary interference with the task of the social worker, and serving 'irrelevant' purposes such as statistics, research, or planning." (p.9)

A recent major study sponsored by the Department of Health and Social Security also looked at social workers' attitudes to recording. One of the main points to emerge (Hill, 1978) was not so much an objection to paperwork as such, but a conflict between getting on with social work and having to spend time on paperwork:

"Social workers are deeply concerned that they are only able to give a limited proportion of their time to direct work with their clients. Workload studies have suggested that up to two-thirds of their time is spent travelling, contacting others, and doing paperwork. As the pressures of work increase social workers look to the reduction of these tasks to make room for more social work. Alternative suggestions that paperwork should be more thorough will be deeply resented." (p.10)

Hill considers that a fear of yet greater demands on their time is an important factor in explaining social workers' reluctance to accept new information systems. He also points to a conflict between on the one hand social workers' motivations ("their intellectual interests and educational backgrounds will rarely involve a concern about statistics, research or data-collection") and principles (such as "autonomy, decentralisation and confidentiality") and on the other hand the demands made on them by paperwork and information collection systems instituted by their central organisation and which represent different motivations (such as an interest in research and quantification) and different values (such as rationality and equity). The motivations and principles of social workers which he lists are amongst those discussed in the earlier parts of this section, and the conflicts which he mentions are in part those of a professional working in a large organisation (1.4.2). Warham (1977) makes the same point, saying that social workers may feel "harrassed by forms to be filled in, by decision-taking processes which are formal and cumbersome and in which the needs of individual clients appear not to be recognised."(p.130)

Much of the discussion about the difficulties of introducing computers into social services departments (see chapter 3) has centred on attitudes of social workers to the computer itself. It is perhaps equally relevant to view the computer as one of several possible approaches to trying to improve on methods of information collection and use. In this connection it should be noted that the proposed new manual recording system for statistical returns by social workers in Scotland (Scottish Education Department, 1975) received as rough a ride from social workers (Thayer, 1977) as has any computerised system in England, and indeed had to be abandoned (at least initially) in as great a proportion of departments.

1.5 THE ORGANISATION

The fieldwork for this study involved eight district offices in two social services departments. In chapter 4 I compare the structures of these eight districts according to elements of Burns and Stalker's organic/mechanistic distinction (described in 1.5.2); and in chapters 6 and 7 I show how this characterisation of the districts relates to use of the computer and attitudes towards it by district staff. Because it was only practical to study two departments (appendix 1) it is less easy to compare the effect of departmental structure on computerisation. Some background information on departmental organisation is however given in chapter 4, especially regarding those aspects which are of particular relevance to districts; such as communication between headquarters and districts and the degree of autonomy of districts from headquarters. It should also be noted that the literature described in chapter 3 suggests that the failure of early computer systems was due more to their rejection by social workers in districts (leaving aside the question of whether or not such rejection was justified) than to the influence of departmental structure.

1.5.1 The Organisation of Social Services Departments and District Offices

The account in this section draws particularly on Brown (1975), but references are also included to some other important sources such as the Brunel Institute study (1974) and the recent study sponsored by the Department of Health and Social Security (Parsloe et al, 1977).

There are 108 social services departments in England (i.e. excluding Scotland and Wales), and these employed 184,000 staff (whole-time equivalent) altogether at September 1976 (DHSS, 1977). Of these staff the bulk worked in residential homes and day nurseries or as home helps, so that only 42,000 were employed in district or headquarters offices. The 42,000 were split into 24,000 social work staff and 18,000 administrative. This section briefly describes the structure of departments, concentrating particularly on district offices and, to a lesser extent, headquarters. It should however be remembered that between them these contain less than 25% of all social services staff.

Local authorities are free to adopt whatever organisational structure they find most appropriate under the director of social

services. The organisation chart (figure 1.5.1) shows some of the typical features of one of the smaller departments, such as the two visited in my fieldwork. There are two main levels of formal organisation - headquarters and district. Districts are often called area teams, but the term 'team' will be avoided in this connection to avoid confusion with the supervision teams or groups into which districts are divided. At headquarters are the director, possibly a deputy director, and up to five assistant directors with responsibilities for fieldwork; administrative support; the management of institutions; domiciliary and day care services; training, research and planning. At district level is a district officer and two to four senior social workers (sometimes referred to as 'seniors') each of whom supervises a team of social workers (qualified and unqualified), assistants, and trainees. The assistants usually are employed to carry out duties such as delivery of aids to handicapped people, or transport of children in the authority's care; but where trained staff are in short supply they sometimes also carry out some of the more 'professional' tasks such as assisting families in budgeting, assessments of requests for aids, and so on. The division of district staff into supervision teams can be done in a variety of ways: some districts give one team the responsibility for all 'short-term' or 'intake' cases (i.e. those new referrals thought likely to be involved with the department for less than about three months) leaving one or two other teams to handle 'long-term' work; others do it on a geographical basis; others on a basis of specialisms; and others arbitrarily. Districts should work closely with domiciliary and day care services (e.g home helps, meals on wheels, day centres for the elderly, aids for the handicapped) which are administered under a separate chain of command, with specialist organisers for home help and community services. The districts also depend on headquarters for management services such as training, research, planning, administrative support, and can call on them for expert advice on highly specialised functions such as adoption and court procedures.

There are of course many variations from the example structure given. One of the main such differences between departments is the degree of 'decentralisation' - the type and number of functions allocated to districts. The structure described above and in the figure, although fairly common, is near to one extreme, and since the

setting up of the new larger departments has come under increasing criticism for concentrating too much control at headquarters. At the opposite pole is the model recommended by a working party of the British Association of Social Workers (1977), which called for "decentralised and integrated area units" which would be responsible for fieldwork, day care, and residential functions in their geographical areas (and presumably for considerable administrative support also). Many departments are in intermediate positions, with day care staff such as home help organisers being based in the fieldwork district offices and responsible on a day-to-day basis to the district officer, or with the district having control over allocation of a certain number of places at local day centres and residential homes, or with some training functions devolved.

Brown's short account perhaps gives insufficient attention to the importance of the administrative staff within districts; and the BASW report (ibid) - although primarily concerned with social work staff - does not discuss the role of the administrative staff at all in the organisational model which it proposes. In fact, administrative support staff, including clerical and reception staff, form about 25% of the establishment of most districts. As with other functions, administrative staff may be responsible solely to their assistant director, or on a day-to-day basis to their district officer, or to their district officer alone - depending on the policies of the department. The responsibilities of the administrative section of the district office include the conventional servicing functions of collecting statistics, typing reports, maintaining card indexes, and dealing with some reception work (although the importance of the receptionists' role has often been underestimated as Hall (1974) points out). However, in some districts, especially where administration is partially decentralised, they can be closely involved in the development of the work of the district: in planning and research, and in assisting the administrative role of the social worker through developing better procedures for case closure, recording, and other aspects of the management of the district's total caseload. Parsloe et al (1977) pointed out that social workers generally were appreciative of the administrative staff, but that their inadequate numbers appeared to be an important reason for the poor standards of recording (1.4.4).

1.5.2 Organic and Mechanistic

So far this account has centred on the 'public face' of the organisation - the official hierarchy in which employees are located. However, as Warham (1977) points out (p.139):

> "The existence of a hierarchy in itself tells us nothing of the way in which a particular department is managed - its managerial style may be formal and authoritarian or informal and democratic."

Similarly, although there is a continuous chain of accountability and broad supervision from each employee up to the director and then the committee, to ensure that the purposes of the agency are carried out, this is not necessarily incompatible with a considerable degree of discretion, at least within a defined and agreed field (e.g. references to the Brunel study and to Brown in 1.4.2a(vi)).

Burns and Stalker (1961) describe a continuum between two 'ideal types' of organisation - organic and mechanistic. A somewhat simplified picture of these two types is given in figure 1.5.2. In summary (Whittington, 1975), the mechanistic type is characterised by "a clear hierarchy of offices involving functionally specific goals, a tendency to vertical communication, and dependence on the 'top' to relate each person's specialism to organisational goals" whilst the organic type has "a network structure of control, authority and communication" and involves "the adjustment and continual re-definition of individual tasks through interaction with others."(p.61)

The model is particularly useful for this research because (although with a reservation noted and answered below) the continuum describes organisational types ranging, according to Burns and Stalker, from those which at the one pole (organic) are appropriate to conditions of technical and/or commercial change and innovation and those which at the other pole (mechanistic) are appropriate for relatively stable technical and commercial conditions.

There are, on the other hand, two respects in which the appropriateness of the model for this research has to be questioned. Firstly Burns and Stalker's work was based on studies of industrial firms, whilst this study is based in social services organisations. However, as Warham (1977) points out: "particular characteristics may be shared by organisations which are superficially unalike". The characteristics one chooses to look at must depend on one's purpose in the investigation. In a study of low wages it might be more

appropriate to look at the degree of unionisation in the various concerns than to look at whether they were industrial or service organisations. Similarly, in a study concerned with reactions to innovation the Burns and Stalker model would appear to be a useful one. On a practical level, the elements of their two concepts (figure 1.5.2) can be applied in a non-industrial organisation with equal ease (or difficulty).

The second problem is that my study is concerned with reaction to a particular innovation, whilst the work of Burns and Stalker related to the more general question of how well an organisation was adapted to conditions of change and innovation. For example they state:

> "The organic system is appropriate to changing conditions, which give rise constantly to fresh problems and unforeseen requirements for action which cannot be broken down or distributed automatically." (p.121)

It would however appear reasonable to suppose that an organisation which was appropriate to changing conditions in a wide sense would also be more receptive to one particular major innovation than would an organisation which was not adapted to continual change; and it therefore seemed worthwhile in my study to compare district offices by use of these concepts. It should also be noted that since Burns and Stalker's work was published a number of other studies have used their model. One in particular (Hebden, Rose and Scott, 1969) although not discussing this divergence from the original context, did use the model to study reactions to computerisation (in two industrial concerns). Their study concluded that receptiveness to computerisation was strongly associated with organic structure - in particular with the amount of consultation between colleagues and with loose definition of responsibilities within the organisation - and these results justify in a practical perspective my use of the model.

The study by Hebden et al raises a further point. Earlier (1.4.1) it was suggested that their claim that cosmopolitans are more likely to accept computerisation than are locals might not be a general rule, but might depend on the nature of their work and their training. Similarly it is not obvious that organic structure will necessarily make computerisation easier in a social services department, where attitudes to the computer may be less favourable than in manufacturing industry. For example, computerised client record systems in

hospitals (dealing usually with admissions, ward allocation, etc. rather than much clinical detail), housing departments (for house allocation and exchange) and one social security office, have been more successful - at least in terms of continued existence - than those in social services; and yet social services departments, and in particular social service district offices with their high proportion of professionally qualified staff, might be expected to have a more organic structure than these other agencies. It is possible that where attitudes to computerisation are in general favourable then organic structure would be helpful since people will be both willing (due to their favourable attitude) and able (due to the organic structure) to adapt to it and to adapt it to the needs of the organisation. On the other hand where attitudes to computerisation are hostile, an organic structure would permit greater opportunity for active or passive opposition than would a mechanistic one.

Social services - mechanistic ?

Chapter 4 will distinguish between the different districts visited according to how far they exhibit organic or mechanistic characteristics. Whittington (1975) has pointed out that many writers have suggested that the organisation of social service departments is mechanistic and should be organic, but that little empirical evidence has been offered for either proposition. To establish that they "should be organic", for example, it would have to be shown that social services departments do operate in an environment of change. Burns and Stalker (1961) make this requirement quite clear:

> "Nothing in our experience justifies the assumption that mechanistic systems should be superseded by organic in conditions of stability. The beginning of administrative wisdom is the awareness that there is no one optimum type of management system." (p.125)

Fortunately from the point of view of this thesis it is not necessary for me to define the environment in which social services operate or to decide how far it is a stable or a changing one - a difficult task according to Whittington. Rather than questioning whether or not their organisation is appropriate for their environment, I am using the mechanistic/organic continuum merely to compare the organisation

of the different district offices studied.

It should also be emphasized that Burns and Stalkers' two concepts represent "a polarity not a dichotomy":

> "There are intermediate stages between the extremities, empirically known to us. Also, the relation of one form to the other is elastic, so that a concern oscillating between relative stability and relative change may also oscillate between the two forms. A concern may (and frequently does) operate with a management system which includes both types." (p.122)

Social services district offices would appear to occupy such intermediate positions in many instances. Beswick (1975) points out that the senior staff are promoted social workers, sharing professional ideals with the social workers under them, and this is likely to make for a flexibility within the overall bureaucratic structure. Indications of a more organic mode in a district office would include: allocation of cases at meetings rather than by the senior alone, frequent district meetings, an emphasis on generic caseloads, experimentation with new methods of working to meet newly perceived needs, participation in B.A.S.W. affairs, and an emphasis on the importance of skills and experience rather than departmental rules and guidelines. The debate over specialist and generic methods of working (1.4.3) is to some extent a debate about where districts should sit on the continuum. But even where districts do have their designated specialists - for example in welfare rights, adoption, or mental health - their specialist role may consist more in advising other social workers (an organic indication) rather than in handling all such cases themselves (a mechanistic indication).

1.5.3 Organisation and Individuals

Although section 1.4 discussed background and belief characteristics of social workers and section 1.5 separately considered the structure of the office organisation, the two are closely inter-related. In 1.4.2a, in discussing characteristics of professionals, it was impossible to avoid mentioning the relationship with organisational structure. Similarly, as figure 1.5.2 suggests, different organisational structures may demand very different attitudes and beliefs from the people working within them. Burns and Stalker (1961) for example state:

"The area of commitment to the concern ... is far more extensive in organic than in mechanistic systems. Commitment, in fact, is expected to approach that of the professional scientist to his work, and frequently does." (p.122)

Strauss et al (1964) make this point. They see the organisation as an 'arena', and whilst the formal structures do determine what goes on to an extent, so do the beliefs and objectives of the participants. Similarly, although beliefs may become modified by working within the various laid-down procedures, yet these operating practices (both formal and informal) are themselves in part a result of and affected by the various ideologies present within the organisation. Strauss calls the structure of an organisation, at any one particular point in time, "the total of all its rules, agreements and understandings of whatever kind" at that time. He does not see this as static - "the model assumes continuing organisational and ideological change and seeks to explain its direction". Shifts occur, for example, as new factors are introduced and as different groups seek to improve their positions. In these respects the model draws on similar concepts of interaction, change, and development, to those used in the recent debate on professions (1.4.2b).

The case study by Beswick (1975) in one particular social services department showed the relationship between organisational structure and individual ideologies of social workers. She was looking at cash payments to families under section one of the Children and Young Persons Act, and she found that two different district offices, although they were in the same department, had developed quite different practices corresponding to their different ideologies of social work. In one office social workers emphasised the material content of social need and saw section one as providing resources to help meet this, whereas the other, which was more concerned with casework practice, tended to tie section one payments in with the casework by (for example) expecting clients to pay a portion of the bill so as to foster their independence. Beswick did not suggest whether ideology or operational practice came first, but rather claimed that an overall 'office ethos' emerged from the various practices and beliefs present in the office. This office ethos corresponds to the 'balance' between the various interacting factors in Strauss above. Beswick noted that office ethos was so powerful

that social workers moving to an office whose ethos differed from their own ideology often modified the latter to become compatible with the norms of the new situation. Nonetheless, the overall office ethos was not represented as monolithic - within it there were individuals and subgroups with differing opinions and practices, and office ethos appeared to be represented by the current state of balance that emerged from these various influences.

Smith and Harris (1972) whose study considered the relationship between allocation procedures and conceptions of need by social workers in some departments in Scotland, stated that the model of organisation still used by legislators was that the organisational structure which they set up will largely determine what happens within it. They did not agree with this view:

> "The relationship between ideology and organisational structure appears to be rather more complex than this. Rather than the need-ideology being simply a function of the organisational structure there are features of the structure which appear themselves to result from social workers' efforts to promote the need-ideologies they hold. In turn these may be a function of other variables such as training, previous experience and, in a reflexive way which gives rise to a circular relationship, the internal structure of the department." (p.31)

Going back to Strauss's model - which was also used by Smith and Harris - one would expect each district office to respond differently to the computer depending on the interplay between its organisational structure and the backgrounds and beliefs of its members - as well of course as the way the computer system was introduced and its practical nature including the extent to which it altered the ability of social workers to exercise control over their own work (1.4.2b).

Once the computer system is installed, the social workers' initial reactions, based on preconceived and received notions about what computers do and are, change to take account of what the computer system in their office actually turns out to be: the collection of regular printed reports giving information about their clients, the new set of forms to be completed, the use of new coding systems to categorise clients and cases, a computer terminal on which information about clients can be recorded and from which it can be retrieved, and so on. An 'anti-paperwork' social worker in district X might be

pleased to receive a monthly printout of his or her clients since this saves keeping a handwritten list, whilst in district Y where lists of clients are used by the senior to check that the social workers keep up-to-date with their paperwork, such 'anti-paperwork' social workers might resent the printouts. In discussing the 'unit of need' (1.4.3b) Smith and Harris point out the consequences of social worker beliefs for the filing systems, allocation procedures, and other elements of office structure. They describe the practical difficulties for a social worker who sees the family as the basic unit in an office where the consensus view (created by and/or reflected in the administrative systems) sees individuals as basic. A computer system might run into problems if it attempted to alter currently held beliefs and practices. Alternatively, through changing the practices it might affect the beliefs (see example below). Finally, one would expect that the computer would be used in different, perhaps very different, ways by different offices, depending on the current balance between their organisational structure and the attitudes and beliefs of their members.

An example

This example of how the introduction of the computer affected beliefs is drawn from my fieldwork and will again be mentioned in 6.1.2c. The practice had grown up in a number of social worker/senior relationships that supervision consisted primarily of the senior advising on cases with which the social worker was finding difficulty - but it was up to the social worker to manage his or her own caseload and, in particular, to decide what problems to bring to the senior for discussion. One result of computerisation was that all seniors received a printout of the caseloads of each of their social workers every month (the social workers received one too). Some seniors resisted this in the sense of not using it. Most did use it quite extensively, and started changing the form of their supervisions to include more discussion of the caseload as a whole - the number and balance of cases, which cases could be closed, and other aspects of caseload management - rather than just the casework problems raised by the social worker. This change in practice in turn appeared to be affecting the social workers' views of the role of the senior.

Previously some social workers had felt rather disorganised in their caseload management, but had seen this to a large extent as their own problem - their senior was there primarily to give advice and help on the more 'professional' aspects of their work, the handling of individual casework, and not on the 'administrative' side. A further example (6.1.6b and 5.1.8) is concerned with confidentiality. Confidentiality fears caused initial resistance to the computer, and yet once it was installed the attitudes of some social workers towards confidentiality began to change as a result - for example there appeared to be a move towards a greater acceptance of 'departmental confidentiality' rather than 'district confidentiality', at least with respect to the information stored on the computer.

CHAPTER 2 SURVEY OF COMPUTER APPLICATIONS IN SOCIAL SERVICES DEPARTMENTS

This chapter describes the results of a postal survey of computer applications in social services departments. It summarises the types and numbers of applications (2.1), the changing patterns of computer use (2.2), and the main sources of information used by local authorities to find out about such applications in other authorities (2.3).

2.1 TYPES AND NUMBERS OF APPLICATIONS

An initial stage of the research was to discover what computer applications existed, were being planned, or had been abandoned in local authority social services and social work departments. This was essential, not just to provide a backcloth to the research, but to assist in deciding which departments should be visited for the pilot study and the main fieldwork. Since this information had not been systematically collected before, a survey was conducted. Details of the questionnaire, the methodology, and the response rates are given in appendix 2, and the results are described below.

The number of applications discovered (some proposed, some implemented, and some abandoned) was 210, broken down into categories as in table 2.1a. That table cross-tabulates the main subject area of the application against its main use, using the following categories:

Subject Area

1. Fieldwork referrals and/or cases
2. Home help cases and/or staff
3. Foster parents
4. Children in care
5. CSDP (chronic sick or disabled), blind, deaf, etc.
6. Residents of homes
7. Survey and census material
8. Welfare benefits
9. Other or unstated

Main Use

1. Information system with online computer terminals in district offices, allowing constantly updated client information. Variety of uses including all or most of: fieldwork operation, management information, administration, research, returns to DHSS
2. Batch information system as in (1) but without online terminals in area offices
3. Records, registers, indexes
4. Statistics for headquarters management &/or research
5. Statistics for DHSS or Scottish Office
6. Financial applications - payments, billings, etc.
7. Advice and assistance to social workers

Two important reservations in interpreting table 2.1a are:

1. Assigning 'subject area' and 'main use' to each application was in many cases done on fairly scanty information - sometimes just the name of the application without any knowledge of its details. This difficulty particularly applied to 'main use', as many applications had more than one intended use. In such cases I took the first-mentioned use as being the main use.

2. Some codings, in particular 'main use = financial' are likely to be considerable underestimates. Financial applications are often controlled wholly or partly by the treasurer's department, and a social services research officer completing my questionnaire might well either forget them or discount them as not being relevant. For example one research officer, having stated 'none' in question 1 (computer applications relevant to the work of the department) went on in question 6 (other comments) to say:

> "Most computer applications in this authority have been geared up to financial purposes (and very little time or cooperation exists for any other ideas it seems). The financial side is well covered - payments to foster parents etc."

A deputy director in a Scottish region stated:

> "It is anticipated that the Regional computer will be for around the next two years involved exclusively with financial affairs, and thus will not be available for some considerable time for social work department purposes. As a consequence our response to your various sections, etc., is that of 'nil return'".

Despite these reservations, the table gives a useful general picture. It suggests that the two main uses of computers in social services departments are for financial purposes (largely in the areas of foster parent payments, home help payments and/or billings, other accounts, etc.) and to provide statistics for management and research purposes (the subject areas here being widely spread). Another important use is in maintaining registers and indexes (most commonly in relation to the statutory requirement regarding the blind, deaf, and chronically sick and disabled). Broadly based information systems with a wide range of uses also account for a significant minority of applications, although few of these involve on-line terminals in district offices.

Table 2.1b shows the stage reached by the applications listed in table 2.1a. Some applications are implemented in phases, and in the table applications are entered as 'fully implemented' if phase I at least has been completed. For example, an information system might start as a client index, and later add programs to provide DHSS statistics, operational recall and review systems for social workers, etc.

2.2 CHANGING PATTERNS OF COMPUTER USE

In table 2.2a 'main use' has been tabulated against 'stage reached', both variables having been reduced slightly for ease of presentation. Table 2.2b shows the year when the application first became, or is expected to become, operational - unfortunately this information was omitted on about 50% of the questionnaires returned.

Tables 2.2a and 2.2b clearly indicate the switch that has been taking place from financial applications, through single-purpose non-financial applications, to information systems. Only 4% of the 56 financial applications are not yet implemented, whilst only 9% of information systems <u>are</u> implemented, and some of these are only at an early stage. About 50% of the simpler non-financial applications are implemented. The picture is equally clearcut in table 2.2b, which shows 50% of financial applications dating back to 1971 or earlier.

The shift was also illustrated by comments on the questionnaires, such as this from an administrative officer in a Scottish department:

> "In (this authority) computer-based systems are only recently being considered as information storage and manipulation systems. Prior to re-organisation they were used as expensive 'add-listers' for wages, rates, voters rolls, accounts, etc. Now that the dust of reorganisation has settled, the future looks rosier."

The question of the future exercised a number of respondents. The idea of computer-based total information systems received several critical comments from authorities who had had some experience or who had considered the matter. These comments appeared to reflect in part the number of such systems (or detailed system proposals) that had been abandoned, in part a more serious attempt to look at what the computer realistically could or could not be expected to do in their authority, and also a growing realisation that the comparative potential of manual systems should be investigated rather than going all-out for computerisation without first looking at cheaper and easier options.

Tables 2.2a and 2.2b indicate a high failure rate for information systems - about 25% of those notified had been suspended or abandoned. Of course, the high abandonment rate relative to other types of application may merely reflect the fact that information systems are a recent development, so that failures are still remembered. But equally the figure of 25% could be an underestimate, with departments not choosing to mention proposals abandoned at an early stage when they were not public knowledge. One research officer knowledgeable about applications in other authorities said on his questionnaire:

> "I get the impression that many smaller local authorities have quietly considered computerising management information and decided against it for the time being."

The reasons for abandonment and for circumspection about major computer applications were varied:

(a) Cost

One research officer stated:

> "Computer time is tightly costed ... The standard justification here is that the proposed use should either save time, or be more efficient/cheaper. We are finding it hard in these terms to justify the computerisation of a register of children in care, and

I fear that some changes in attitudes about unquantifiables will have to occur before the exciting types of uses ... become widespread."

However, cost was not mentioned very frequently, possibly since computer costs are often partially or wholly covered by a central budget rather than out of the pocket of the user department.

(b) Usefulness, and comparison with manual systems

The consensus amongst the comments received was that it was important that the potential and appropriateness of the computer should be evaluated realistically, should be compared with manual systems, and should not be accepted uncritically as some kind of panacea for solving problems of information, management and administration. A number of proposed systems had been abandoned because once investigated in some detail they were seen as over-ambitious or it was decided that the department itself was not ready for them. A research officer from a London Borough social services department which had abandoned plans for a computerised system commented:

"The problem is not an arithmetic or a data-processing one, but one of accuracy/complexity/flexibility of records and recording requirements. The volume is too small to justify EDP (electronic data processing - i.e. computers) except for bus passes, where it is really unnecessary. (This authority) prefers to continue development of a manual case records system as being more cost-effective and more flexible as requirements change."

A development officer for another department said that their proposed client record system was abandoned because it was felt to be "too grandiose given the stage of development of 'information systems' within the department". He added:

"I feel that to date much wasted effort has been put into attempting to develop comprehensive 'client information systems' analogous to the concept used in industry some years ago of MIS (Management Information Systems) as an all-embracing concept. I feel that computers could be much more effective when used in an ad-hoc manner in certain specified areas. Many social services departments have yet to work out exactly what social workers are trying to do before they can begin to look at basic information needs."

(c) Other reasons

Other reasons for abandonment were mentioned, reflecting the less explicit effects of and reasons for computerisation. One research officer in a London Borough said cryptically that proposed analyses of child care figures and referral analyses "may be abandoned because of unrealistic fears about confidentiality or because information is power". Another research officer who had visited a number of departments stated:

> "Personally I feel that the greatest problem (leading to abandonment of or difficulty with computerised client information systems) has been the motivation behind the setting up of systems. This has varied, but it has seldom centred on the mundane requirements of social services departments."

From those departments that were currently implementing or operating information systems, not many comments were received in the 'other comments' section of their returned questionnaires. Those that were made suggested that the departments were convinced of the rightness of their approach, but aware that considerable problems might have to be faced. For example, a development officer said:

> "The scheme which has now evolved is in many respects a compromise between many conflicting pressures, and so the system aims to fulfil a number of purposes. Perhaps the most important feature of the system is that it is designed to work in a context of a low ratio of clerical staff to social work staff. This means that social workers will be involved in making inputs to the computer. We are aware that such an approach carries risks, but without substantial increases in the number of clerks we employ, we have little alternative ... During Spring 1974 we literally gave every social worker then in the department a real opportunity to discuss the draft system proposals with the team doing the design work."

2.3 LOCAL AUTHORITY SOURCES OF INFORMATION

The questionnaire included several questions (1,2,4) which indicated what knowledge local authorities had of computer developments in other social services departments, and what relevant sources of information were available to them. Table 2.3 shows the number of returned questionnaires in which each of the local authorities, publications, or organisations listed was mentioned at least once.

It is clear from the table that documentary information was heavily concentrated in two sources - the BURISA journal and Derbyshire's report, with the latter being perhaps the most important. Chapter 3 will therefore concentrate mainly on these two sources in looking at the conventional wisdom at that time, and at how the debate over computerisation progressed. The articles are almost exclusively about department-wide information systems, although as we have seen in this chapter such applications or proposals are in a distinct minority. The only occurrence in table 2.3 of any other type of computer application is Manchester's program to provide DHSS staffing returns, which was mentioned 3 times by respondents. This program was described in an article in the Clearing House bulletin (Davies, 1975).

3.1 INTRODUCTION

As indicated at the end of the previous chapter, the main documentary sources of information about computer applications in social services were articles in BURISA and the report by Derbyshire (1974a). A number of other periodicals (for example the Municipal and Public Services Journal, the Local Government Chronicle, Computer Weekly, and Computing) also carried relevant articles from time to time; but the results of my survey suggested that these were not read, or not remembered, by social services research staff - at least with regard to computer applications.

This chapter outlines the debate about computerisation during the 1970s as it developed through journals and in reports of conferences and of informal meetings. It looks first (3.2) at some of the motivations behind computerisation and then (3.3) identifies three phases in the debate - initial enthusiasm, disillusionment, and re-appraisal. Finally (3.4) the "conventional wisdom" which emerged on how successfully to introduce a computerised client record system is described.

It should be noted that the authors of most of the articles surveyed were actively involved in decision-making on whether and/or how to introduce computers, and many had strongly held views. A letter from Derbyshire (1978) ended:

> "Although there are various articles presenting the case for and against computerisation, there is a great need for a reasonably comprehensive but, above all, well-balanced account of the vast amount of experience which has now accumulated."

3.2 TO COMPUTERISE OR NOT ?

In section 1.1 I described briefly some important factors leading to the interest in computerised information systems in social services departments from 1972 onwards. These were the establishment of social service departments (soon enlarged further by local government reorganisation) and the consequent need to rationalise information collection and use, the role of research officers, the increased importance and prestige of the computer within local authorities, the growing use of computers for non-financial applications, and the interests of the computer companies. That there was a need for improved information systems of some description to assist management and administration at all levels from the director to field workers was widely accepted. Pritlove (1975), a research officer, says

> "Since 1970 departments have doubled and trebled in size and their management requirements have multiplied accordingly. Administrators can be overwhelmed by a feeling of loss of control. Before 1970, social services staff worked in small 'visible' departments where people knew one another by sight ... known horizons have vanished."

However, it is of interest to note that the debate about computerisation was very much centred not on <u>why</u> computers were being introduced, but on <u>how</u> to make them succeed, in the sense of gaining acceptance by the staff who it was hoped would operate and use them. In departments where computerisation was looked into, a feasibility study was of course conducted and the objectives of computerisation were usually listed in it, but the fact that a computer was to be used was often taken for granted from the outset and no detailed study of the costs and benefits of alternatives - such as an enhanced manual system - was normally undertaken. This is not to say that computerisation was not worthwhile, but it does suggest that the <u>reasons</u> behind it were not solely the departments' information requirements, but also had to do with other factors such as the role of computer interests, the prestige of being a pioneer department, and so on. Derbyshire (1974a) writes:

> "The decision to initiate a computer application is likely to be an involved one with powerful initiatives coming from people who

... have various interests in the presence or absence of a computer."

In a private communication a social services research officer stated that in his view the motivation for computerisation "has seldom centred on the mundane requirements of social services departments."

A frequent pattern was for the initiative to come from the computer side rather than from within social services. The computer was then seen by social services staff as a possible way of solving the department's often severe information problems; a feasibility study was conducted for social services by the computer section, or by a joint social services and computer section working party, and so the question of alternatives did not really arise. It is interesting to note that many of the departments that have implemented computerised client information systems are in local authorities with "go-ahead" computer sections which were also involved in other advanced non-numerical computer applications (for example, articles in BURISA describe early computerised information systems set up in the planning departments at Leeds, Coventry, East Sussex, Bradford, and Gateshead, all of whom have also attempted to implement major social service systems).

3.3 THE TRENDS OF DEBATE

3.3.1 Three Phases of Debate

Although it is impossible to make rigid categorisations there would appear to be three distinct phases in the published debate on computerised client information systems in social services: a first phase (roughly 1972-73) of initial enthusiasm, a second phase (roughly 1974) of disillusionment, and a subsequent third phase of re-appraisal of the potential of the computer in practice. The systems proposed can themselves be grouped into first and second generations; the distinction being between those that were designed very soon after the 1972 reorganisation and those which were designed later when practical experience of the first generation pioneers was becoming available. The first phase of debate corresponds to the time when the first generation of systems was being designed and implemented, the second and third phases correspond to the time when the successes and failures of early attempts were known and when the second generation of systems was being developed in other local authorities.

This separation into three phases is also suggested by the number of relevant articles being published. Table 3.3.1 indicates the number of articles specifically dealing with computerisation of social services client record systems and published in BURISA, the Birmingham University Clearing House Bulletin, and the Municipal and Public Services Journal between 1972-77. It also lists the number of computerised client record systems mentioned as being under development in the Clearing House Register of Social Services Research - it should be noted that this register is far from exhaustive, being based on information sent in by those departments who have the interest to do so.

3.3.2 Initial Enthusiasm

Immediately following social services reorganisation, a small number of authorities began planning and implementing computerised client record systems. In all cases the computer section was involved from the start, and it was often they who took the initiative in suggesting the use of a computer. Evidence of this process in Sheffield is given by Lawton (1973) and in East Sussex and Bradford by Fogg (1973a).

Social Services management and research officers were well aware of

the deficiencies in methods of information collection and use in the new departments, and at a time when the practical problems of computer implementation had not yet been experienced in social services, many such staff expressed enthusiasm for computerisation. Watts (1974), writing about a conference on computers in social services, reports an assistant director recommending the use of computers to assist planning and management because "this enormous machine (social services) was gobbling up money and dishing out services with no coherent picture of what it was doing."

Unfortunately such enthusiasm for computers was not always based on knowledge and experience. There were parallel problems for systems analysts used to designing systems for use by clerical staff and now having to design and implement a system for social workers. Pritlove (1975) and Derbyshire (1974a) illustrate these difficulties:

> "To the hard-pressed social services manager the magic qualities of the computer are truly welcome. Its reputation quickly grows ... Social workers expect the computer to 'know' about events of which it has not been informed ... Some managers will sit back after a meeting with computer staff, murmuring in unworried tones, 'It's all magic to me.'"
>
> "There are comparatively few people who are knowledgeable both about computers and about social services, and ... there is an endemic optimism among people involved in introducing computer systems about the system's probable performance."

In most cases the initial feasibility study and the more detailed systems proposals were produced by personnel from the computer section, albeit after discussion with social services staff and participation in joint working groups. Of 12 such documents that I have read only two were published by the social services department. Once the computer was installed, the department often remained dependent on the computer section even in fairly simple matters where training could have been given. Later, in the second generation of systems, such training often was given even to district office administrative staff. For example, Derbyshire (1974a) says of the five pioneer departments that he studied:

> "To answer 'ad-hoc' enquiries, appropriate instructions must be fed to the computer. For ICL computers (Lancashire, Sheffield, Bradford, and East Sussex) a facility known as FIND-2 can be used.

There is an equivalent procedure on IBM machines. Except in the case of Lancashire (where they are written by the research section of the social services department) the instructions are written in the computer section after it has received details of an enquiry from the social services department."

It would be misleading to suggest that the social services staff involved in the introduction of computers were unaware of the difficulties that might develop. Summarising the June and November 1972 Birmingham University meetings of (mainly) social services research staff to discuss computerisation, Thayer (1973a) states:

"Probably the main problem revealed by the two meetings was behavioural rather than technical: how to persuade social work management in general, and social workers in particular, to recognise the advantages to be gained from a regular and enhanced flow of information and to accept the discipline necessary to operate such a system."

And Pritlove (1973), describing the proposed Bradford system, says:

"Disadvantages were seen as:-

1. The necessity for coding information.

2. Potential problems on confidentiality, control of data and control of work style; loss of independent initiative to an outside department.

3. Emotional and practical problems encountered in the change to a computer-based system."

However, it would only be later that social worker "education" and "consultation" would become widely accepted as critical in the introduction of computers. In April 1973, writing about the Sheffield system, Lawton (1973) said: "An attempt to visit 6 separate area meetings to explain part of the system was rather tedious and time-consuming, though probably necessary". In October 1973, in appraising 3 early systems, Fogg (1973a) says: "Whether the success of a system depends on the attention paid to education remains to be seen". The conclusions of this thesis (chapter 7) suggest however that these early doubters were probably right in not regarding "education" as the most crucial factor in the successful introduction of a computer.

Over-optimism about computer benefits

It is probably fair to say that the combination of factors such as lack of experience of computers and computerisation by social services staff, the fact of being pioneers and having no other examples to build on, and the enthusiasm of computer personnel in "selling" the possibilities to departments which were sometimes in serious information handling difficulties, bred an undue optimism amongst the decision makers about what computerisation could do and an underestimation of the difficulties and delays that would be encountered.

At the inter-authority symposium on social services computer applications held in March and June 1972 (Townsend, 1972 and Pritlove, 1972a) the optimism even extended to a hope that a common approach to what basic client details to record could be achieved by different authorities thinking of computerising. The need was felt for "an up-to-date and relevant system of comparable inter-authority data, particularly in view of the supra-authority nature of computer applications, and local government changes in 1974". But the idea of computer applications being "supra-authority" was not something that would be mentioned again once the difficulties of even introducing the computer into one department began to be experienced. To have added these difficulties to the problems of introducing a degree of uniformity between authorities would really have been asking the impossible, as can be seen from the experience of Scotland where the Scottish Office attempted to introduce a common system of client-based returns five years later (Thayer, 1977). As late as 1981 this system was still not operational in Scotland's largest local authority. As far as England and Wales are concerned it was only in 1978 that the Department of Health and Social Security came out with a discussion document suggesting a possible common approach to recording of intake information (DHSS, 1978).

The phenomenon of over-optimism is certainly not restricted to social service computer applications. Westin (1972) referred to several major difficulties which were often not anticipated fully or even at all by those responsible for implementing "shared central databases". One such is the "blue sky" approach - plans which explicitly or implicitly require the total restructuring of the organisation but do not anticipate the upheavals and dissension likely

to result (some examples in this thesis are listed in 7.1.2). Secondly, "total" systems involve merging files on individuals from various different existing record systems, and "it is by no means clear what factors about individuals or events are the critical ones". Computers need explicit particulars whereas manual systems allow anything thought relevant (e.g. 6.1.3b(i)) - but this is becoming less true with the possibility of storage of text in computer files. A related problem still remains, however: in conversation with social service research officers I have several times been told that managers are unable to specify what type of information from the computer they would find useful, and that when presented with a list of possible types of output they almost invariably ask to receive everything on the list. Thirdly, Westin says there are likely to be problems of flexibility - anticipating changes to the system that may be required by organisational developments or by requests from users once the system is in operation (e.g. 6.1.7d).

3.3.3 Disillusionment

1974 was in a number of ways a difficult year for social services departments. Local authority reorganisation took place on 1st April, often resulting in departments being greatly increased in size. Whilst for some departments other than social services reorganisation may have been an opportunity they were ready for, social services departments were only just beginning to settle down from their creation in 1971. In addition government spending cutbacks were soon to become a restraining factor for existing services, let alone for new projects. Whilst it is not easy to say how far these factors contributed to declining enthusiasm over computerisation, there is no doubt that the results of early computerisation projects were an important factor.

As the pioneer authorities progressed from the stages of design and development on to implementation of their systems, the practical difficulties - in particular social worker resistance - began to make themselves felt more strongly. Articles in relevant journals (see below) record how, of the five systems described by Derbyshire (1974a), Bradford's (operational since 1973) and Cheshire's (still under development in 1974) were abandoned in 1974. The management information side of Lancashire's system (operational since 1970) was

abandoned in 1974, leaving it as a purely financial system. Sheffield's system was experiencing problems of accuracy and updating which were in part to lead to its abandonment in 1976. Only East Sussex's was progressing reasonably satisfactorily. The one other system at or near implementation (Buckinghamshire, which started operation on 1st April 1974) was also achieving a fair degree of success. This system, however, had little or no publicity until a short article about it was published by Robinson (1976) in BURISA in May 1976. But here too there were difficulties in the early days - reference is made in Grant and Pound (1978) to early experience of implementation in Buckinghamshire: "Batch inputs and rejected information at first caused endless extra work. Anxieties amongst the staff, particularly social workers, were also experienced."

This low point was marked by articles such as "Social Services Waterlogged" (Derbyshire, 1974b), in BURISA, and "Not Completely Computer Gloom" (Hurley, 1975) in the Social Services Research Group Bulletin. The earlier lack of published criticism of computerisation also began to change markedly. Of the six articles published in BURISA about social services management information systems in 1973 all were to a greater or lesser degree favourable, whereas three of the eight articles published in 1974-75 argued against computerisation and two others were sceptical of its practicality. The articles also suggest that within departments some staff who had initially seen the computer as a panacea for social services information problems had now turned full circle, whilst others who had never really liked the idea but had not felt able to argue against the promises of the computer specialists were now coming out from under the bed. Pritlove, a research officer involved closely in the Bradford computer project, says (1975):

> "The mechanism of belief goes into exact reverse. Just as, in the first case, the computer would rid the department of ills far beyond its scope, so now it becomes the very cause of as many evils. The computer is blamed for all the problems of change and stress which led in earlier days to enthusiasm for its introduction ... Irrational hope is replaced by irrational blame."

Gould (1976) says:

> "Delegates at the LAMSAC conference on the computer and the social

services rightly pointed out that not a single management decision appeared to have been made directly as a result of output from a computer system."

The main factor leading to the failure of systems was seen as the poor quality of input by social workers, partly because the system provided too little direct benefit to them. The poor input led to unreliable output, creating a vicious circle in which social workers were not convinced of a necessity to provide full and up-to-date input. For example, Hurley (1975) says of the abandoned Bradford system:

> "The social worker was meant to update the information by means of 'change slips' ... It was impossible to ensure that all cases were entered on the computer and to make sure that all changes were notified. In truth, the social workers themselves derived very little benefit from the system ... thus there was little incentive to complete the computer forms at all."

It was pointed out by various people (for example, Derbyshire) that the poor quality of input might not be due solely or even largely to the legendary antipathy of social workers to form completion (1.4.4), but rather to doubts about the motivation for introducing the system and about the value of the system to themselves and to the department.

3.3.4 Re-appraisal

As a result of the failures and disappointments of early systems computer and social services research and management staff in the second generation departments considering computerisation were now under an incentive to make a fuller justification of their proposals both within their own department and (for those who took part in inter-authority meetings) to other departments. Antagonists to computerisation, who previously were unable to counter the promises of the technical experts, now had the ammunition they needed.

Thus we see reasoned decisions by some departments not to computerise, and more discussion of what the information needs of social services departments are (and possibly how a computer can help), rather than starting with a computer and then seeing how it can be used in the department. On the other hand factors such as those mentioned in 3.3.2 remained critical in some other authorities in encouraging computerisation; but although these authorities again were

going ahead without a detailed evaluation of alternatives such as improved manual systems most did at least look to the pioneers for ideas as to how to make their system more acceptable to social workers and managers. This "conventional wisdom" about the conditions for success is outlined in section 3.4.

Decision not to computerise

As late as early 1977 a BURISA editorial (Barratt and Vyvyan) said:

> "The central debate is still whether or not a computer-based system for storing and analysing client data is either desirable or feasible."

Authorities which made a deliberate decision to concentrate on improving manual systems for recording details of ongoing cases include Derbyshire, Leicestershire, Dorset (Thomas, 1976), Hillingdon (Seagrave, 1975a) and Hertfordshire (Langham and Flowers, 1974). As far as I have been able to gather from informal discussions, none of the departments which made an early decision to computerise made a detailed study of the relative advantages and drawbacks of computerisation versus a new or improved manual system. Costs and - even more so - benefits are of course notoriously difficult to quantify (for example, see Derbyshire, 1974a) in such an area, and it seemed to have been usual for computerisation, where it was accepted, to have been justified by anticipated benefits which were agreed to be unquantifiable or which were felt to be unattainable by a manual approach. Fruin (1976) says: "Cost-effectiveness and cost-benefit are critical issues for which rational answers have been but rarely provided - faith is important."

Although difficult, comparisons of the costs and benefits were not impossible, and were made by some departments. Of the Hillingdon decision not to computerise Seagrave (1975a) says:

> "As members of the LOLA North London computer consortium (we) had the opportunity to participate in a computer case record scheme. We chose not to because the cost looked high, and we were sceptical about the practical benefits to field staff; and above all because we became convinced that the manual system was just as good, indeed better, for providing the information we actually needed and wanted; and far, far cheaper both to install and run."

Seagrave (1975b) argues in another paper that problems of confidentiality are an additional reason for not computerising, but I

know of no evidence that this has been the major factor in any of the departments deciding against computerisation; and there is remarkably little comment about this issue in published articles. However the question of control of information (which relates to power as well as to confidentiality) was raised in a paper (Langham and Flowers, 1974) initially presented to the June 1974 LAMSAC conference on "The Computer and the Social Services", in which it was stated that Hertfordshire had turned down the idea of computerisation because, firstly, the type of information involved would not require sophisticated (and by implication expensive) methods of storage; secondly, they were not convinced of the practical benefits of the computer (for example, social workers would prefer to refer to their own casefile rather than a VDU); and thirdly: "social services would lose control over its own information as it would have become a user of equipment controlled by one or more departments."

Information Needs

Langham and Flowers (ibid) also point out how discussion had often centred primarily on computerisation rather than on first deciding information needs and then seeing if computerisation was appropriate:

> "Another aspect of the background to the development of the client information system has been the selection of storage and retrieval equipment (computer equipment or card sorting systems for example), which tends to predominate in discussion of information systems."

Other departments, after studying their information needs, did decide that computers had a major role (for example, Kent - Gould, 1976) or a partial one (for example, Hampshire). The development of Hampshire's system was to be based (Barratt and Vyvyan, 1977) on "an analysis of the policy development process and different kinds of information associated with it", so as to ensure that the information to be provided by the system would be relevant and useful. Ward (1977), the research officer for Hampshire Social Services, says:

> "Flirtation with ... computer-based systems that would store all led to a disenchantment ... caused through a realisation that policy making doesn't work like that. Data needs are modest, the threshold of understanding not universally high and other influences on policy development equally important."

3.3.5 The Position at the Time of my Fieldwork (1977)

Within the literature the general mood remains mixed. In a brief commentary on some 20 local authorities which had considered or attempted computerisation, Thomas (1976) concludes:

> "The overall picture, therefore, is one of limited and halting progress despite widespread interest and a great deal of effort."

Describing the Kent proposals for a major computer system geared particularly closely to planning and monitoring he says: "It is perhaps an apt comment on current progress that the plan was shelved."

The computer was moving away from the centre of the stage in articles and conference papers, and there were (table 3.3.1) fewer published articles specifically about computer information systems. In the BURISA report of the 1978 annual Social Services Research Group workshop (Townsend, 1978) the only reference to computers was the statement by one main speaker that: "The computer is an expensive distraction" - this being number 9 in his list of 10 "management information axioms".

Of the pioneer authorities, East Sussex stands out as the continuing source of optimism about the benefits and feasibility of computerisation, although the general climate of opinion is indicated by the fact that the East Sussex assistant director ends a recent progress report in BURISA (Borley, 1977) with the cry "East Sussex lives - OK!" His report is optimistic but nonetheless points to limitations, particularly financial ones:

> "We believe we have clean and verified data on all client families (over 100,000) known to East Sussex over the past 5 to 6 years ... Our potential given a fair financial following wind is almost unlimited. With limited resources, however, we can only proceed slowly and our current aim therefore is restricted to the consolidation of gains made thus far."

As mentioned earlier, one (Buckinghamshire) of the two pioneer authorities to achieve a major degree of success received very little publicity, and only became widely known following a May 1976 article in BURISA. Similarly, although a number of the second generation systems are being implemented fairly successfully (for example, Sunderland, Gateshead, Coventry) so far little has been published about them. This is due in part to not wanting to follow the example of some of the early authorities who made ambitious claims and later

found that the reality was rather different. A short BURISA report (Anon, 1977) on the ambitious system proposed for Coventry states:

> "Coventry's view is that too much can be said and written about computer systems for social services records before they are proven. Once the first phase has become fully operational and has had time to settle down it is hoped to take stock and report how the system is working."

On the other hand, there is increasing communication between authorities at a more informal and direct level, by visits from one authority to another and at workshops and conferences. Indeed by the end of 1976 East Sussex had been visited by some 24 other authorities and more recently many have visited Gateshead and Sunderland.

Some of the authorities with well-established systems now claim considerable benefits. One, in a private communication, said:

> "The annual cost of the computer system is £105,000. This is not additional costs to social services ... In order to collect, store and disseminate the data at the level now required at least 30 extra clerks would be required at a cost of about £120,000. But even with a vastly increased clerical force, it would not be possible to get full value from the information, such is its complexity."

Buckinghamshire (Robinson, 1976) refers to a great improvement in the accuracy of record keeping over the old manual system, because the computer makes people aware of errors:

> "6 months after starting there were about 3500 errors among 14,000 records on the computer file ... Now there are 1500 on 30,000 records. The attainable minimum is probably not much less than 900 because the first input is of referral information which is generally incomplete."

Changes in technology (in particular the growth of mini- and micro-computers and their rapidly falling costs) are likely to be important in the future: the possibility arises of having a minicomputer in each area office (Seagrave, 1978). Not only would the costs be lower than with a traditional centralised system using the local authority computer, but the department would be independent of the computer section, and the district offices within the department would retain a high degree of autonomy and control over the information.

3.4 CONVENTIONAL WISDOM ON HOW TO SUCCEED

3.4.1 Introduction

As indicated in section 3.2 the debate on computerisation centred, particularly in the earlier days, on how to make it succeed rather than on why computerisation was necessary. This is in part explained by factors such as the enthusiasm for the computer by the experts (3.3.2); and by the great personal and resource commitments involved for the department and for individuals once the decision to go ahead had been taken. For example, Fogg (1973a) points out the importance of a staff member having full-time responsibility for the project for a period of at least two years. This of course entails a con siderable personal commitment for the person involved, with the promise of enhanced career prospects if the system succeeds and the attendant worry of failure. As the practical difficulties of implementing early systems began to show up so, for those authorities committed to computerisation, the question of "how" became yet more important. Indeed even the debate about the "why" of the computer was sometimes arrived at by way of the "how": People would ask in effect "how can we make this system more useful to social workers so that it will be more acceptable?". For example Thayer (1973a) from East Sussex - the first authority to place very great emphasis on social worker motivation - says:

> "The willingness of social workers to record information comprehensively and accurately may well be influenced by their perceptions of the usefulness of that data. One approach to the problem of motivation, suggested in the feasibility report, is to feed back information to field workers in the form of data which helps them perform their own management functions."

Many answers are given in the articles that I surveyed as to how to ensure the success of computerisation. The most frequent relate to overcoming the reluctance of social workers, and these will be covered in the next section (3.4.2). Other commonly mentioned approaches relate more to project organisation and management and these are described in 3.4.3. Some other points which received rather less attention in the literature are mentioned in 3.4.4.

3.4.2 Overcoming the Reluctance of Social Workers

The reasons for failure of or problems with computerised information systems in social services were most frequently placed at the door of social workers. In 3.3.3 I referred to the vicious circle of poor input leading to unreliable output and so on. Hill (1978), basing his views on a recent large scale study of the attitudes of social workers, suggests that their reluctance to operate recording systems (whether manual or computerised) effectively is due to:

- a concern that they spend too little time (estimated at 30% - Fruin, 1976) in direct work with clients, and thus a dislike of paperwork.
- an identification with their clients rather than the organisation, and hence an ambivalence about departmental recording systems.
- a concern for principles such as autonomy, decentralisation and confidentiality - rather than principles such as rationality and equity which lie behind information systems.
- intellectual interests and educational backgrounds which rarely involve statistics, research, data collection, or quantification.
- a training which does not concern itself with issues of research, information or evaluation of their professional work.

Hill concludes that if the resulting conflicts of roles and values between social workers and research staff in the introduction of information systems are to be overcome, then:

> "a great deal of time has to be spent - time of course taken away from that during which people can get on with their 'real' jobs - seeking common or middle ground between social workers and social services researchers. One important way to seek out that middle ground is to give central attention to the information needs of teams as they seek to manage their priorities."

Hill's research was too late to be used in the design and introduction of the computer systems referred to in this thesis; but his conclusions correspond closely to some of those which were earlier arrived at by dint of intuition and practical experience (for example, Fruin, 1976).

Methods used to gain the acceptance of the system by social workers can be classified as follows:

(a) Making the system an operational aid to social workers

In some systems this was of course a major aim in any case, but its importance in gaining acceptance of the system was often emphasised strongly. Watts (1974), reporting Borley of East Sussex at the January 1974 LAMSAC conference on "The Computer and the Social Services", writes:

> "Although the type of information system developed must depend on management's requirements, said Mr. Borley, it must also produce an immediate and tangible benefit for the fieldworkers themselves. They would be the source of most of the information, and could sabotage the whole enterprise if they thought it a waste of time."

The word "sabotage" was used in a number of articles.

Thus such computer systems normally provide monthly caseload lists, review date reminder lists, and so on. But in addition to the question of what the system provides for social workers, perhaps equally important to its usefulness and acceptability to them is its "style", in the sense of how far it and its associated forms and printouts are based on a numerical/coded/quantified approach, and how far on a more open-ended/narrative one. For example some systems store details of the clients' GPs. On the one hand it is possible to do this by having a code for each GP in the area. Since this would involve a very large number of codes, some systems just have one code to indicate 'GP involvement' - but this means referring elsewhere to find the name of the GP. A third approach is for the computer, in its record of the client, to store the name of the doctor. The approaches using codes are more appropriate for research and statistical purposes; the third approach is better when the information is primarily intended to provide operational assistance. But it is worth noting that such choices of alternatives may well be invisible to the social services staff involved in the design of and consultations about the system, being lay people as far as computers are concerned. If the systems analysts from the computer section come up with a coding approach the social services staff may well accept this without realising that there are alternatives. The style of the system can make a major difference to the appearance of the computer forms and printouts and to how useful and how acceptable they are to social workers. The conclusions of this thesis (chapter 7) suggest that the nature of the system - including what it does, how it does it, and the

competence of the programming itself - is the most important factor determining its acceptability to social workers.

(b) Consultation of social workers about system design and use

A report (Anon, 1977) on Coventry's proposals states:

> "Extensive consultations have been carried out with the department's social workers and other staff, and the operational aspects of the system have been kept as simple as possible ... As a consequence of this the system has taken four years to develop."

Although many departments emphasise their concern for consultation it is impossible without being present at the time to know exactly what each department means by this, and what effect the consultations had on the design and method of use of the system. As mentioned earlier (3.3.2) social workers (as they would freely agree) often have little idea what computers are or can do. Derbyshire (1975) says:

> "Rather than explaining to people the benefits of computerisation, what is needed is to inform them as to the likely consequences of various possible computerised systems so that there can be meaningful debate which influences (and is seen to influence) the design of the final system."

The example given above of the different ways of recording GP involvement is a case in point.

(c) Education and persuasion of social workers

Pritlove (1973) says that it is impossible to overestimate the importance of consultation, persuasion and education in the planning and introduction of a new system. Consultation refers to discussions aimed to influence the design or method of use of the proposed system. Education aims to inform social workers of the intended benefits and to persuade them to use the system correctly and fully.

The word "consultation" is often used rather inappropriately in the literature to refer to education/persuasion. Other writers make no bones about the fact that they are talking about persuasion, and have a strong belief that social workers will come round to see their own 'rational' perspective once it is explained properly. Gould (1975), who sees the computer as being absolutely essential for top management but who (unusually for a supporter of computerisation) is bold enough to state that it is of little operational use to fieldworkers, says that social workers should be asked how they would allocate resources without adequate information:

"When the case is argued in this way, surely social workers will quickly appreciate that the data they provide constitute the ingredients that help determine the size and nature of their department's share of the corporate cake. The computer system is the mechanism that enables them at last to have a voice in the management of their department. It is the bridge that spans the gap between them and top management."

Although the need to persuade social workers of the confidentiality of proposed computer systems usually features prominently in internal feasibility studies and reports, this issue was little discussed in published articles, possibly because it did not in practice turn out to be a serious stumbling block in persuading social services staff.

(d) Insulate the social workers from the system

This approach accepts that social workers are likely to be reluctant or hostile, and therefore input to the system is designed to be as far as possible handled by administrative staff. Derbyshire (1974a) says:

"The approach of Sheffield, who have had considerable success both in getting the system accepted and in producing results, and Cheshire is to insulate the social worker to a large extent by keeping the more controversial activities, such as coding, within the Records system."

Most departments, however, feel that since the social worker is the prime source of the information then in the long run a system will be more accurate, more up-to-date, and more used by and useful to social workers if it is also they who provide the input data for it. This view is perhaps justified by the fact that both the systems mentioned in the quote were subsequently abandoned (3.3.3).

3.4.3 Questions of Project Organisation and Management

Note: In this and the next section the order of lettering of subsections is continued from that in 3.4.2 above, since all are approaches to making computerisation successful.

This second set of approaches to making computerisation succeed relates mainly to how to fit the system into the organisation of the department (e-g) and to how the project itself should be organised and managed (h-k). Several of the points raised are also of relevance to acceptance by social workers (3.4.2). For example, having one person in fulltime overall charge of the project (h) makes consultation and

education (b & c) easier, and the approach of insulating social workers from the computer (d) is also an organisational question.

(e) Minimum impact on existing procedures

Vyvyan (1975), describing the Havering system proposals, says:

> "Most of the information will be collected on forms presently compiled by area staff, subject to some minor amendment. It is intended that there should be little impact on existing administrative procedures."

Such an approach is likely to require either that the computer system does not entail a great deal of coding (a) or, if it does, that this is done by administrative staff on the basis of largely uncoded information entered by social workers (d).

(f) Prior manual implementation

The previous approach avoids the problem of having to introduce new forms to social workers at all. In (f), the approach is to split the problem into two by first introducing the new forms and as much else as possible of the paperwork of the new system, and only introducing the computer once that has settled down. The minutes (Pritlove, 1972a) of the Birmingham conference on computer applications, held as early as November 1972, recognised that even the introduction of a new form can be fraught with difficulties:

> "The possibility of errors occurring in the format of documents is quite high due to the detail of the forms and unforeseen ambiguities, etc. It was stressed that before a system could be transferred to a computer-based system, it should be straightened out."

An overview article in BURISA (Derbyshire, 1974b) goes further:

> "The first step should be the development of a satisfactory manual system. When the accuracy of input to this is adequate, the introduction of a computer might be considered. Far from sorting out the chaos that usually exists, immediate computerisation is likely to make things worse."

(g) Incremental approach

Fruin (1976) states that those systems which have the capacity to evolve from small beginnings and the flexibility to adapt to the unexpected are those most likely to succeed in the long run. This approach accepts that design and implementation of a social services computer system are complex problems to which the final answer cannot

be fully specified in advance. Design is difficult because social services staff know little of the potential of computers (3.3.2) and computer staff know little of social services; and implementation may be difficult because of the reluctance of social services staff at various levels. The incremental approach recognises these difficulties, but by bringing in the computer step-by-step and even designing the system in this way, it tries to ensure success in the later more advanced stages by using the experience and the confidence already built up in the earlier ones.

The alternatives of an all-in-one or an incremental approach can be reflected not just in the implementation process, but also in technical details of the system. Ham and Noble (1973) describe in detail how the way that information is stored in the computer in the East Sussex scheme allows further types of information easily to be added as required. Thayer (1974) summarises this:

> "Attempting to hold data about clients in such a way that additional data can be input ... with a minimum of additional programming or disruption to existing output."

Some authorities who took the all-in-one approach have subsequently found themselves with long periods of modifications as the practical difficulties of implementation and use were encountered; and such modifications are likely to be more difficult to make where the data structures used in the computer program (ie the way in which the computer stores the information) are too precisely specified in advance.

(h) A full-time project coordinator

Fogg (1973a), summarising the early experience of pioneer authorities, stresses the importance of appointing a social services officer with full time responsibility for running the project:

> "It is a mistake to attempt to run the system as a corollary of other activities or duties ... In reality the time taken to design, set up, test, and fully implement a system is of the order of two years or more. Such an appointment has the additional benefit of putting someone in the position of having an overall personal investment in the quality of the information."

This approach, particularly if the appointed person is in a senior position, helps ensure that when problems do arise there is someone with overall responsibility and with a personal motivation to ensure

that they are tackled. The coordinator, who will pick up more knowledge of the technical aspects than probably anyone else within the department, is also a person who can act as a bridge between the social work staff at all levels and the computer experts - a vital role.

(i) Management commitment

The previous approach - appointment of a full-time coordinator - is one example of a serious management commitment. As in many innovatory computer projects, unanticipated costs and problems are very likely to arise, and development may take longer than expected. Fogg (1973a) says:

> "In practice the success of systems may depend on the involvement of senior management ... Unless there is a willingness to divert sufficient resources into the exercise, the results will be disappointing."

Additionally, to help overcome social worker doubts it is important that senior management convinces district officers and seniors and obtains their active commitment. Fruin (1976) claims that

> "Whether the area-based social workers and supervisors view the computer innovation in this way (as being of use to them) depends not on the skill of the systems analyst or programmer, but on the leadership of the social work professional staff."

(j) Continuing management commitment by the computer section

As was pointed out earlier (3.3.2) the initiative for computerisation often comes from within the local authority computer section. Some social services departments however have suffered because when staff or resource problems arose within the computer section they were not given the priority which they had (whether wrongly or rightly) expected. A summary of the experience of early systems (Derbyshire, 1974b) states:

> "There is a danger that at times of crisis (which may be most of the time), financial applications get priority over other applications."

According to Robinson (1976) in Buckinghamshire, despite "very close" relations and understanding between the social services department and the computer section, the systems analyst had to be withdrawn from the project for 6 months because of staff shortages: "and it is with some relief that we have welcomed him back."

(k) Computer experts seconded to social services

Another suggestion is that the computer section should second a computer development team to the department for as long as design, implementation and modification may last, to allow a better mutual understanding to be formed between social work and computer staff, and thus enable a more appropriate system to be developed. The summary of early systems in BURISA (Derbyshire, 1974b) states:

> "Only in one authority, East Sussex, are the analysts comparatively independent of the treasurer's department and able to identify with the subtle trivia of life in a social work team."

3.4.4 Other Matters

Some final points affecting the success or otherwise of computerisation are the questions of technical competence and of the motivation for the introduction of the system.

(l) Technical competence

The literature suggests that there have not been serious problems caused by poor systems analysis or programming. Derbyshire (1974b) states that in only one department did inadequate programming seem to have been a significant factor.

None of the subsequent BURISA articles mention difficulties in this area. However, it should be noted that programming deficiencies are not necessarily obvious to the lay person, who may not know what is or is not normal or possible with regard to computer applications, and who may therefore attribute problems to other more obvious targets such as bad form completion, or mispunching of input data. Some examples of such difficulties in the two systems studied appear in 5.5.5.

Apart from the question of the competence of the computer programming itself, questions of alternative choices in the design and selection of forms and printouts also arise. This was mentioned in 3.4.2a.

(m) Motivation for introduction of the system

As mentioned earlier (3.2) the reasons behind the introduction of the computer may not be solely or even mainly those which are quoted officially. But social workers, who (Hill, 1978) in any case are likely to have a certain degree of scepticism about moves by headquarters to develop an information system - especially a

computerised one - may well sense or suspect such motivations even if they do not know the fine details, and this might strengthen their opposition to the computer. I was informed (in a private communication) of a local authority where in an effort to allay the doubts of social workers, they were led to believe that the decision to computerise was a corporate one over which the department had little say, although in fact the decision was the department's.

In the BURISA summary of early systems (Derbyshire, 1974b) the author goes so far as to say:

> "It is essential that the motivation for a computer system comes from those people who will benefit from its operation. Systems imposed from above, however much education of the lower orders takes place, are likely to lack any clear direction and to prove inappropriate for the needs of the department. It is difficult to convey to people a balanced impression of what a computer can achieve for them in practice. But it is by no means impossible."

3.5 SUMMARY

This chapter has surveyed the debate which took place, largely amongst social service researchers, concerning the introduction of computerised client record systems in social services departments. The reasons for computerisation were shown (3.2) often to be related in part to factors other than information needs. Section 3.3 described how the atmosphere changed from one of initial enthusiasm in the early 1970s to widespread disillusion in the light of early practical experience and then, slowly, to a more realistic appraisal of the problems and benefits of computerisation. The final section (3.4) described the techniques for ensuring successful implementation which have been canvassed in the literature. The most frequently mentioned concern how to overcome the assumed reluctance of social workers (3.4.2), whilst others relate to organisational and technical matters (3.4.3-4).

CHAPTER 4 THE DEPARTMENTS, THE DISTRICTS, AND THE SOCIAL WORKERS

This chapter discusses the organisation of the two departments (4.1), the characteristics of social workers in the two departments (4.2), and the organisation of the eight district offices visited (4.3). The section on departmental organisation (4.1) also includes some general information about the relationship between districts and headquarters. The organic/mechanistic distinction is applied for headquarters in 4.1.3 and for districts in 4.3.5. In the description of districts the more detailed information about districts A1-A4 and B6 is relegated to appendix 9, for reasons given at the start of 4.3.

4.1 THE TWO DEPARTMENTS

4.1.1 The Local Authority Context

The choice of which authorities to visit for the fieldwork was severely constrained, and is described in appendix 1. There were many similarities between the two local authorities finally selected. Both were metropolitan boroughs of similar size, population, and age structure (table 4.1). Both were industrial areas with a densely populated urban centre surrounded on three sides by a semi-rural area based on smaller towns - many of them existing or former mining communities. Both areas had suffered severely from industrial decline with redundancies and closures in the coal and manufacturing industries.

Both authorities were near to the same major city, and both suffered from being "poor relations". Within social services, for example, staff who joined the authorities as trainees often moved to the city once they had qualified, attracted by the better work conditions in the larger department. One director spoke of the "(name of authority) syndrome" - which referred to the fact that his authority and department were low in resources, were overshadowed by their neighbour, and were little known to other authorities and other social services departments. In my discussions with social workers, they often pointed to housing schemes or civic buildings which they felt were unnecessarily grandiose in order to compete with the reputation of the city, and similar criticisms were also applied to projects within social services (see 5.5.2b).

The proportion of the social services budget spent on different areas of work (see table 4.1) did not vary greatly between the two departments, except that in department A higher expenditure and greater manpower was allocated to administration - presumably due to the greater degree of centralisation and concentration of staff at headquarters (see 4.1.2). Insofar as the departments varied from national averages for all authorities or for all metropolitan boroughs, both departments leant in the same directions (see table 4.1), with somewhat higher expenditure on fieldwork, support services, and administration, and noticeably less on residential care. Since the age structure of the two departments was near the national average, these differences probably reflected the very high unemployment in the two areas, resulting in proportionately more cases involving people of working age (hence a greater emphasis on fieldwork and support rather than residential care) and in a higher turnover of cases (and hence higher administrative costs).

4.1.2 The Formal Structure of the Departments

The formal structure of both departments was broadly similar to the model described in 1.5.1. However, there were interesting differences at headquarters level and in the degree of district autonomy.

At the headquarters level, department A had a noticeably more hierarchical structure. There was a deputy director who was given responsibility for the day-to-day running of the department - with the sole and important exception (5.3.1) of the small but high-powered "development group" which reported straight to the director, and whose main task at the time was the design and implementation of the computer system. There was also a layer of "principal officers" below the assistant directors. Thus department A had four layers in its headquarters hierarchy, against two in department B. Not only was department A's hierarchy taller but it was also narrower, since there was no assistant director whose remit included research, evaluation, training, etc. These functions were split, with major research and development projects being handled by the development group, and the more routine evaluation, training, and statistics exercises being handled by the relevant assistant director.

(a) The role of the director

Interviews with the two directors revealed a clear difference in their views of their roles. This was reflected in the different structures at the top levels of the two departments, described above.

In department A the director was primarily concerned with "overall council strategy", and was also keen to ensure that his department and authority built up (and deserved) a reputation amongst other authorities and social services departments. He felt that many problems facing social services were the result of policies or failures of other departments in the past, and that by taking an active part in the corporate management (see 1.1) of the authority a director could greatly benefit his clients and potential clients. He saw the computer, in addition to having direct benefits to his department, as bringing significant additional opportunities for social services within the local authority as a whole (5.5.2b), and as increasing the authority's reputation. The structure of a deputy director handling the day-to-day running of the department (apart from major research and development projects) allowed the director to concentrate on those strategic and extra-departmental areas where he felt his energies should be directed.

In department B the director - whilst also leaving day-to-day management to his deputies, and whilst also participating in the authority's corporate management structure - saw his role primarily as concerning the imaginative development of social services per se. Thus the computer system, for example, was seen as being for the internal benefit of the department, enabling social workers to give a better service to clients. The director, being more closely entwined with the internal affairs of the department than his counterpart, did not require a deputy between himself and the assistant directors; and the fact that the computer occupied a less strategic role meant that it did not need to be under his immediate control as it did in department A.

(b) Decentralisation

The formal structures also differed in the degree of decentralisation (1.5.1) of functions and authority to districts. This was significantly greater in department B, as might be expected from the larger hierarchy at headquarters in department A. That this was a deliberate policy in department B was confirmed by the fact that

district officer salaries were not far below those of assistant directors.

One important example was that districts in department B took a major responsibility for inservice training, rather than most courses being organised by headquarters. This was signified by the appointment in each district of a "senior fieldwork supervisor". Again indicating the autonomy granted to districts, the exact role of the supervisor was decided within the district. In one district (B1) the supervisor had no cases of her own, and her responsibilities included organising two full days of training for each social worker each month. In the other three districts visited the supervisor acted in part as an ordinary senior, but their supervision team usually included any students in the district, and they were also responsible for regular training schemes for district staff and for liaison with headquarters over training. A second example was that in department A specialist social workers for the blind and deaf were based in a "special unit" at headquarters, whilst in department B districts had their own specialists responsible, like any other social worker, to the district officer.

Conversely, I found no example of responsibilities which were devolved to districts in department A but not in department B. The marked lack of district autonomy in department A was a cause of some dissatisfaction to district staff, and particularly district officers. Some examples of how this greater decentralisation showed up during computer implementation are given in 5.4.3b.

(c) The role of the district administrative staff

A further example of the greater district autonomy in department B was in the role and staffing of district administrative sections. In department A administrative staff in districts were responsible to an assistant director at headquarters, whilst in department B they were also responsible in part to district officers. Additionally, district administration staffing was higher in department B: both departments had roughly similar numbers allocated to the basic tasks of reception, typing, and other clerical duties, but department B had two senior admin staff in each district (the "senior clerk" and the "second senior") as against one in department A's districts.

These differences were significant in terms of the ability to innovate and respond to innovations. The admin sections in department

B appeared to be more developed than those in department A, and their role in relation to the introduction of the computer was important. A number of examples are given in chapter 6 (eg 6.1.2e, 6.2.5c).

4.1.3 Organic and Mechanistic Structure, at headquarters level

Although (4.1.2) the formal structure of department A (above district level) was more hierarchical than that of department B, and although it involved greater concentration of authority and staff at headquarters, yet at headquarters level itself department A was probably nearer to Burns and Stalker's "organic" pole (1.5.2) than was department B.

The general atmosphere in department A's headquarters was more informal than in department B's. The deputy director said that "the structure is similar to many others, (but) the way it operates is different": it was, for example, "less rigid".

Using the criteria developed by Burns and Stalker this was most immediately noticeable with regard to communication between staff members. The computer expert assigned to the department from the authority's computer section said that the atmosphere was "unique in its informality". He contrasted the position with another department to which a colleague of his had been assigned. His colleague "has seen the director once, and on a very formal basis", whereas "here, one can go and knock on (the director's first name)'s door any time", and indeed, he joked, the director here "won't speak to you unless you use his first name". The layout of the headquarters office had been designed for and was conducive to informal communication. There was a large open plan office, without partitioning blinds, in which the development group and most of the principal officers worked. Opening directly onto this room were the smallish offices of the assistant directors, the deputy director, and the director, as well as a conference room. The director and his deputy were frequently to be seen in the open plan area talking with staff during working hours and in lunch hours. In department B, by contrast, there was no open plan area, and the offices of the research and development staff (and most other headquarters staff) were in a quite separate part of the building to those of the chief officers. Thus for practical reasons alone it was normally necessary to make an appointment if one needed to see one of the chief officers.

The ways in which the two departments tackled new tasks were well illustrated by how they set up their computer projects (5.3). In department B responsibilities for development and operation of all aspects of the system (confidentiality, publicity, day-to-day operation, etc.) were decided and allocated to existing personnel from the outset, and most of these staff then met together as a working party (the "executive group"). Although some organisational innovation was entailed for the department (5.3.2), this was far less so than in department A where the structure of headquarters was very significantly changed (5.3.1) in order to handle the new task (as well as certain other lesser tasks). The importance which department B placed on breaking the task down into clearly-defined individual responsibilities was indicated by the fact that their computer system manual stated the responsibilities regarding the computer not only of headquarters staff but also of district staff. This did not however contradict the greater autonomy which they gave to districts - indeed the way that responsibilities were allocated to districts if anything emphasised it: rather than stating that all district officers would be responsible for X and all senior team clerks for Y, all districts were approached, informed of the requirements of computer operation, and asked to indicate which members of staff would take on which responsibilities. In department A the allocation of responsibilities was much more informal, developing as the system was implemented, and certainly not being written down in widely distributed documents as in department B.

With regard to reference groups, department A was again nearer to the organic pole. Headquarters research staff in department A had recently had two articles published in specialist journals, and when I asked the Director whether I could do anything in return for the hospitality I had received his first suggestion was that I could write an article about his computer system for a social work journal once my research was complete. Concerns in department B were more local. For example, in reply to the same question the director asked me to prepare a report on how their computer system could be improved. In relation to computer development, the more cosmopolitan outlook of department A was illustrated by the different ways in which the two departments went about utilising the experience of other authorities which had attempted computerisation (5.5.3a).

4.2 THE 91 SOCIAL WORKERS

4.2.1 Social Worker Characteristics

The breakdown into grades of fieldwork staff in the two departments is shown in table 4.2a. The figures are based on the eight district offices visited, and cover all social work staff there (not just those interviewed).

Each district in department B had a "senior fieldwork supervisor" (4.1.2b) in addition to the district officer and the ordinary seniors. However, as the district staff complements were larger in department B than in department A, the proportion of district senior staff was only marginally higher. Department B also had a higher proportion of qualified social workers than department A. Overall the average number of qualified social workers (including seniors and district officers) was 5.4 per district in department A as against 7.6 in department B.

The "department" columns in table 4.2b (whose description appears under the table itself) reveal some further differences between the social workers in the two departments, but these were not very great. For those attitude variables where there was a difference significant at the .05 level or better the significance figure is entered in the "department" columns.

However, those few differences which appear in the table do point in the same direction: namely, a somewhat more cosmopolitan and professionally-oriented staff in department B. Thus the social workers in department A placed rather less stress on professional standards (variable SV04) as being an important influence for a social worker than did those in department B. The greater emphasis on the views of the client (SV02) in department A is harder to interpret since although at first sight this also appears to fit with a less expert and professional approach it has to be remembered that some approaches to social work (e.g. the functional and radical approaches - 1.4.3) do regard this as important. Indeed, taken alongside the greater emphasis on political views (SV03), there is an indication of the appreciation of the "radical" approach amongst some of the social workers in department A. Returning to the main interpretation of the table, a greater emphasis in department A on individual initiative and commonsense, as opposed to learnt and shared professional skills, is suggested by the more individual approach (CA02) that was felt to

prevail, and by the greater importance that was placed on the less-skilled tasks of "friendly encouragement of clients" (SV47) and "practical help" to clients (SV48). In department B there was also (PE31) a greater membership of organisations and groups which social workers felt relevant to their work; staff had undertaken more years of post-school education (PT01); and they thought it better for social workers to move around rather than staying in the one department (SU09 in appendix 5).

This conclusion of a rather more cosmopolitan(*) and professionally oriented(*) staff in department B is in line with the results in table 4.2a showing a somewhat higher proportion of qualified staff there.

One apparent oddity in table 4.2b should be mentioned: The rather more professional nature of district staff in department B appears somewhat at odds with the results for variable SV01, which suggests that staff in department B nonetheless placed greater emphasis on departmental rules and guidelines than did those in department A. However this may well be due to the greater autonomy of districts in department B (4.1.2b,c, 4.1.3), so that those departmental rules and guidelines that did exist were seen as particularly important. Secondly, the reason why the correlation shows up at all as significant under the tau test is because a relatively small number of staff in the two departments took extreme opposite positions. Most staff in the two departments in fact showed similar opinions - and this (table 4.2b) is why the values taken by the dichotomised variable in the two departments are much closer together than is the case for other variables with tau correlations of similar significances.

* It is explained in A3.4.1 and 1.4.1 that instruments attempting to measure concepts such as "professional" and "cosmopolitan" were not used in this research. Rather, individual elements which make up such concepts were used, and are referred to individually in the text.

4.2.2 Social Workers in Relation to Headquarters

Criticisms of management by more junior staff are of course common to many social services departments and other organisations. Nonetheless, it is relevant to consider, for the two departments visited, those aspects of headquarters activity with which dissatisfaction was particularly marked, and to identify differences between the departments.

(a) Communication

The greater frequency and informality of communication amongst headquarters staff in department A (see 4.1.3) appeared to extend, albeit in a lesser degree, to the type of communication between districts and headquarters. Although social workers in both departments often felt "at a distance" from their headquarters, this seemed more marked in department B. Offhand remarks by social workers during interviews suggested that those in department B felt less confident about contacting headquarters staff either directly or informally. For example, one experienced social worker in department B, after talking about headquarters consultation with social workers over the computer, went on to say:

> "I mean to say, it's a general problem ... in feeding our feelings back, personally I don't think it works. I mean - we have got a social workers' group, and we have been discussing this recently, a departmental group, an unofficial out-of-hours thing - and we write letters to the director and tell him what we think. You know, that's our way of getting over the problem."

During the interviews social workers were asked what channels they would use to pass on any complaints or suggestions they had about the computer. The majority in both departments mentioned their immediate senior within the district, but whereas 15 staff in department A spontaneously mentioned that they might contact someone at headquarters directly, only four in department B mentioned that possibility.

The amount of physical contact between the districts and headquarters staff was also greater in department A. Variables SW21 and SW23 (see table 4.2b) indicate that visits by social workers to headquarters and by headquarters staff to districts were considerably more frequent in department A. This was not explained by the fact that two of the district offices were in the same building as headquarters in department A, since visits from other districts to headquarters were almost as frequent. Specifically with regard to the computer project, district staff in department A were much better acquainted with headquarters project staff than were those in department B (5.4.3b).

These differences between the departments in the frequency and formality of communication are partly explained by the greater

autonomy granted to districts in department B (4.1.2b), since if more functions are controlled at district level then there is less necessity for communication with headquarters. However, it seemed unlikely that this was the whole reason, and the atmosphere engendered by the director in department A (4.1.3) also appeared to be relevant.

(b) Mistrust of headquarters

In both departments there was a concern amongst social workers that headquarters management went in for a certain degree of "gimmickry" (partly for the reasons indicated in 4.1.1) and that resources were not used in the most cost-effective way, or that priorities were wrong in other ways. Many social workers felt that more money should be spent, for example, on fieldwork services, handicapped aids, and secondment of social workers to training courses; rather than on innovations (5.5.2b) or on building projects which made the department and the council "appear" to be doing something but which were (the social workers claimed) of lower priority. Some typical comments were:

> "They'd much rather build a new children's home than look at the ones that we've got and see if we could rationalise our use of existing ones, which could be easily done."
>
> "I think most departments, most authorities, like to point to things and say: 'Look what we're doing with your money' ... and they want to be remembered for the committee that built the baths or that carried the computer. And other things that may be just as important ... you can't point to somebody and say: 'Look at all these foster parents'".

This mistrust of headquarters' intentions was common to social workers in the two departments. Thus the majority of social workers in both departments were somewhat cynical about the reasons for the introduction of a computer (6.1.5c).

4.3 THE EIGHT DISTRICTS

The remainder of this chapter looks at the eight districts visited. An introductory section (4.3.1) indicates the stage of computer implementation in each district at the time of my visit. The remaining sections then look in some detail at three of the districts - B1, B2 and B3. A parallel description of the other five districts (A1-A4 and B6) is given in appendix 9. The reason for relegating these districts to an appendix is that districts B1-B3 were found to provide an adequate coverage of types of district organisation: the more organic (B2), the more mechanistic (B1), and those where special factors were particularly important (B3). Restricting the other districts to an appendix allows more space in chapter 6 for a detailed look at the reception of the computer in the three districts which displayed very clear differences in organisational types. Furthermore the reader will find it easier to keep in mind the characters of three, rather than eight, districts.

The description of districts in this chapter (and in appendix 9) covers the area and the nature of its work (4.3.2), the physical nature of the office (4.3.3), the staff composition and attitudes (4.3.4) and, calling on the previous sections, the organisation of the office (4.3.5). In order to assist in the comparison between districts, the more easily codified information is also presented in table 4.3a.

4.3.1 Order of Implementation

The month of computer implementation in each district is given in figure 5.2, and that figure (together with sections 5.2 - 5.4 of the text) also sets district implementation into the context of the departmental development, organisation, and implementation of the system. The method of implementation in each district is described in outline in 5.4.3.

In department A the district (A1) chosen for the initial computer implementation was that in which the original (September 1974) feasibility study had been carried out. The district officer had expressed interest in the project and, following the feasibility study, had been involved in departmental discussion about the possibility of computerisation. The office was physically suitable for the experiment, having one very large room in which most of the

social workers and administrative staff all had their desks, thus allowing the VDU to be accessible to all who might wish or need to use it. Finally, the atmosphere in the district was a congenial one in which staff were unlikely to oppose an experiment for the sake of it.

Of the other districts visited in department A, implementation in A3 and A4 was done at the same time since they were in the same building and were to share a VDU. However, there was at the time some staff dissatisfaction (not related to the computer) in the building, and so district A2 was chosen for the second implementation. As in district A1 the district officer here was interested in the possibilities offered by computerisation, and the atmosphere in the office was very congenial.

In department B the order was determined in part by technical and organisational factors. Implementation in districts B1 and B2 was at roughly the same time since they were to share a computer telephone line linking them to the authority's computer, and in districts B3, B4, and B5 at roughly the same time since they shared the same building and were to share two VDU's. Implementation in districts B6 and B7, which shared a line, was in any case due to be last since district B6 had just moved premises, but technical problems with the line further delayed it by some months. District B1 was chosen as the first since, as with district A1, it was here that the feasibility study had been conducted. Additionally, the district officer had been closely involved in the departmental discussions and had developed an interest in computerisation thanks to his contact with the company consultant who had been seconded to the district and had conducted the feasibility study.

Table 4.3a indicates the order in which I visited each of the eight districts, and how many months the visit took place after implementation in that district and after implementation in the first district. Although districts were visited between 1 and 9 months after district implementation, they were visited when the computer system in the department as a whole was at roughly the same stage of development: i.e. having had between 5 and 11 months of active service in at least one district. For the purposes of making comparisons between districts it would have been more satisfactory to have visited each district roughly the same number of months after computer installation in that district. However, this was impractical - the

worst example of this being district B6 where technical problems delayed implementation by some months, although it was a district which I particularly wished to visit because of their decision about where to locate their VDU.

In other respects it was profitable for the length of time between district implementation and my visit to vary, in that this enabled me to see the same system at different stages of implementation. There were in any case such wide differences in how different districts managed the implementation process that the differing times of my visits was probably a lesser factor. Some, for example, completed the changeover from manual to computer operation in a few weeks, whilst others were still using some manual records months after computerisation of part of their operations had commenced. There was evidence to confirm that the differing amounts of experience of the computer of different districts and of different social workers at the times of my visits were not generally an important factor in determining their reactions. In department A the most favourable district (A2 - see table 6.2.2) had had greater experience of the computer (5 months - see table 4.3a) than the least favourable (A3 - 2 months); whilst in department B the most favourable (B3 - 3 months) had had less experience than the least favourable (B1 - 5 months). Secondly, variable CA27 (appendix 5), which measured the number of months experience of the computer by individual social workers, only correlated significantly at the .01 level or better with three variables concerning attitudes to the computer (appendix 6). Two of these (CA11,20) concerned memories of the implementation process. The third (CA08) is the only one which is of relevance here - it suggested that greater experience of the computer system did affect attitudes towards use of the VDU - see end of 6.3.3a for comments on this.

4.3.2 The Areas and the Nature of the Work

The populations served by the two departments were similar in a number of ways (4.1.1). In the present section (and in appendix 9), the character of the area served by each district office is briefly described. Table 4.3a shows how many miles each office was from headquarters; and the proportions of the active caseload that were classified as children/family or elderly/handicapped - these being the largest categories in all eight districts. These proportions are of

interest since cases involving elderly people needing aids and adaptions or bus passes in general occupied less social worker time and were treated more administratively, or by less skilled staff, than family and child care cases where counselling skills were often used. This was a source of regret amongst a number of social workers, and arose partly because of statutory requirements and public concern over cases involving children, rather than just being a reflection of the social workers' own views of priorities. Note too that variations between districts in the number of cases per social worker (see table) appear to be related to the proportions of elderly/handicapped on the district caseload, and inversely related to the proportions of child/family cases. The different numbers and treatments of these two sorts of cases also resulted in some differences regarding computerisation (6.2.5c).

In department B the population served by each district averaged 43,000 as against 37,000 in department A. Elderly and handicapped formed a noticeably higher proportion of caseloads than in department A, and children and families a lower proportion. However, it seems likely that this was a result of organisational factors rather than being due to large differences in the populations in the two areas. Firstly (table 4.1), the proportions of elderly in the populations as a whole were if anything higher in the area served by department A. Secondly, the home help service in department A was run centrally from headquarters whereas in department B it was decentralised to district offices. Thus social workers in department B were much more likely to come into contact with the problems of the elderly and therefore to have more elderly people on their caseloads. Indeed, overcoming the problems caused by this split in operations in department A was one of the main stated objectives of introducing the computer (5.1.1).

This comparison of the pre-computer situation in the two boroughs appears to support the suggestion (Parker, 1967) that the problem of rationing scarce resources is "all too often allowed to resolve itself without conscious planning", and it will be interesting to see whether the centralising of information is sufficient to affect the make-up of caseloads in the long term in department A.

District B1, whose office was a mile or so out from departmental headquarters, served a largely suburban area which included both private and council housing. Most of the work of the district,

however, was centred on two very large council estates, as a result of which the district had the highest proportion of child and family cases, the lowest proportion of elderly/handicapped, and the lowest number of cases per social worker, of the four districts visited.

Districts B2 and B3 were both semi-rural areas consisting largely of small former mining villages. The populations were ageing and in addition many people suffered from the results of mining accidents and diseases, and thus caseloads included high proportions of elderly and handicapped. It is likely that the unusually high numbers of cases per social worker in both districts was due in part to the large number of such cases - which in general occupied less time per case than did child or family cases. However, it is also true that only in these two of the eight districts visited had it been necessary to introduce strict and conscious rationing policies. In B2 this had been done by informing some clients that they would have to go onto a waiting list, and asking others if they would be willing to participate in group work rather than having an individual social worker. In B3 both these steps were also taken, although the group work was introduced as much for social work as for manpower reasons, with the waiting list being the main method of rationing. In both districts the group approach (with certain client groups) had proved very successful.

District B3 was the only one of those visited in which the office was situated a considerable distance from the area it served, being in a large building in the centre of the town. It was intended that offices in the area would be provided in the near future.

4.3.3 The Offices

In table 4.3 district office buildings have been classified according to whether their physical layout was conducive to staff mixing with each other. The classification "yes" means that the physical design of the building was such that the staff (including both administrative and social work staff) inevitably saw each other a lot: either because all social workers worked together in the one room or because it was necessary to pass through the social workers' rooms to get to other rooms. The classification "medium" (abbreviated to "Med" in the table) means that although contact was not inevitable, it was easy - for example where there were several rooms off the one

corridoor. "No" means that contact was inhibited by the layout of the office.

Table 4.3 also indicates where - if anywhere - the "social centre" of the office was. By the social centre I mean a place where one could often expect to find staff (social workers, senior staff, and administration) talking informally about work, or chatting socially, often whilst having coffee or lunch. Note that this concept deals as much with social interaction within the office as with physical layout: in some offices no social centre had developed, whilst in others one had developed in physically surprising locations. In some districts mentioned below the reception area was a secondary social centre; but because of its small size was not used by many people at the same time.

Finally, the table shows where in the office the VDU (5.1.5) and the client index (5.1.6a) were located. Both departments had districts which shared VDUs (such districts were of course in the same buildings) and these included districts A3,A4,B3. In each case, arrangements had been made locally whereby each sharing district had priority for the morning or afternoon session for input work, although this could be interrupted for urgently required interrogations of the computer.

District B1 utilised a large old house on three floors. Although all social workers were on the ground floor, the building inhibited mixing, and no real social centre had developed. A coffee room existed but was far too dingy to use other than for making coffee. Had the reception area been larger it would possibly have become the centre, as staff had to pass through it to enter and leave the building, and they frequently stopped to chat with the two reception staff. The offices of the senior staff and administration were on upper floors of the building.

The VDU and client index were both kept in the reception area in a very visible position, but following the realisation (5.1.7b) that the client index was probably more suitable for checking of callers it was decided to move the VDU, which was being used largely for input and only to a minor extent for enquiries about clients or callers. The social work and administrative staff felt that the VDU would be most appropriate in the administration room and so it was moved there rather than to the alternative of the larger social workers' room.

District B2 was based in a large old building on two floors, and apart from reception (which contained the VDU) and a coffee room it occupied the whole first floor, with all rooms leading off a central square landing. The coffee room was very much a social centre and frequently light music could be heard coming from the record player there at lunch times. This room was also used for district meetings.

District B3 shared a building on three floors in the town centre with two other districts. District B3 was on the third floor and had one very large room (partitioned at one end) for its social workers, whilst all the other rooms came off a square landing. The VDU was located in the shared reception area on the ground floor. Note that although, as in districts A3 and A4, the VDU was in a reception area outside the social workers' part of the building, it was much more a part of their experience in districts A3 and A4 than it was here where it was rarely seen, let alone used, by social workers. Here, partly because the staff were distant from the reception area, a "duty desk" had been set up near the door of the social workers' room, and this was equipped with a specially-requested third copy of the client index (the other two were kept in the administration room and at reception). This end of the room was also laid out as an "information area" with notice boards and charts, and a kettle. Although rather unsuitable for sitting down, this was quite an effective social centre.

4.3.4 The Social Work Staff

Earlier in this chapter (4.2.1) it was noted that department B in general had a slightly more professionally-oriented staff than did department A. Although the staff did vary from one district to another, this was less than I had expected, and the differences were not often of a significant level when measured by the social worker characteristic variables. Those cases where significant differences between districts were apparent are shown in table 4.2b, and will be discussed below.

Whilst table 4.2b covers information gained during interviews, table 4.3a summarises some mainly "harder" data about social workers in districts, obtained from records and from observation. This includes their number (from social work assistants and family aides through to district officers), the proportion who were qualified, the proportion of males, and the estimated average age (this being calculated using

the centre point of the age ranges listed in the questionnaire). In addition, district officers have been classified into three groups as follows. 'A' indicates a young male person (aged 25-34) who had been a district officer for 2-3 years, having moved quite rapidly from trainee social worker through social worker and senior positions, and not usually having worked in jobs outside social services. He is making a professional career in social work and can be expected to look for further promotion within another 2-3 years. 'B' indicates a rather older person (aged 35-44), again male in all cases. Again he is looking for eventual promotion, but expects to stay rather longer (perhaps another 3-6 years) in his present post before moving on. Three of the four district officers in this category had had a first career or job in a quite separate field (industry, shipping, and store management) for a number of years, and the fourth (in district B2) had moved into local authority social work from a previous career in social work with a voluntary agency. The final category, 'C', had only one member, a lady due to retire in the next couple of years. She was the only district officer of those interviewed who had served almost the whole of a long career in social work, having worked in both residential and fieldwork.

District B1 had a fairly young staff with an unusually high proportion of females (although three of the four senior staff were male). The level of education and the degree of qualification were both around average, however, with several of the female staff having had a range of work experience in other jobs and other towns. It was pointed out in 4.3.3 that the layout of the building seriously inhibited staff mixing and the development of a district atmosphere.

District B2 had a high proportion of male staff and the average age was significantly higher than in all other districts (variable PP03 in table 4.2b). The district officer stated it was his policy to try to employ self-motivated people rather than having to instil motivation, and this might explain the age difference: indeed ten of the eleven staff interviewed here had come into social services from some other job, ranging from voluntary social work to industry. The atmosphere in the office was very pleasant (see 4.3.3) and constructive, and a number of people mentioned the role of the district officer in this. For example: "He spends a lot of time outside office hours with community groups ... this tends to give a lead to the other social

workers". However, there was considerable dissatisfaction with headquarters over a number of issues such as car loans and secondment to training courses.

District B3 had easily the highest proportion of qualified staff of the eight districts (table 4.3a). Staff were also more highly educated and more had university degrees than in other districts. The district officer had encouraged staff to go on qualifying courses even when he was very short staffed two or three years previously, and this was now paying off well. The atmosphere was friendly and work-centred, but there was a clear feeling that staff were getting a raw deal from headquarters in various respects, and there were several comments such as: "There's a lot more apathy creeping in now, and I think it's possibly caused by dissatisfaction with the authority ... People say, 'Why should I do anything for this authority ?'" The district officer was a member of the executive group in charge of the computer development (5.3.2).

4.3.5 The Organisation of the District

It will be recalled from earlier in this chapter that at headquarters level the organisation of the two departments differed in a number of respects. In particular (4.1.2) department B gave greater autonomy to districts, and (4.1.3) department A's headquarters had a more organic structure. In the present section the organisation of the eight district offices will be considered.

In visiting the districts, particular attention was paid to a number of points which it was hoped would help to illuminate the character of district organisation. These were: the filing system (this could reflect how much autonomy was granted to individual social workers), the type and number of meetings held within the district (this could indicate the type and amount of communication), the procedure for allocation of new cases (this could reflect the authority and communication structures), and the division of labour - how far each social worker was expected to specialise and how far the district was split into sub-units with distinctive responsibilities (this would indicate how tasks were allocated).

The filing systems observed showed a distinction between departments (social workers in department B appeared to have rather more control over their files than did those in department A), but little

difference between different districts in the same department. This comparison is therefore described in isolation below whilst the other observations (which did show differences between districts in the same department) are described subsequently and in appendix 9 under the heading of each district.

The observations are difficult to quantify in many cases. However, where this was possible details are listed in table 4.3a. The number of meetings held in the district is by itself far from adequate as a measure of the amount of communication, and attention was also paid to informal communication ("social centre" in 4.3.3). In addition, the method of allocation is important since if this is done through allocation meetings these provide frequent occasions at which all social workers in the team get together and at which other topics can arise.

An attempt has been made in the table to indicate where on the organic/mechanistic continuum each district fell (relative to each other, not in any absolute sense). "Org" indicates that the district appeared to be nearer the organic pole than did districts with codes "mix" or "mec". "Mec" indicates a position nearer the mechanistic pole, and "mix" an intermediate (mixed) position (again relative to other districts visited) or one with opposing indications such as different parts of the district working in different ways. This categorisation is based on the evidence described below for each district.

The Filing System

Department A had a policy of each district having an "intake" or "short-term" team and a "long-term" team. As a result, short term and long term casefiles were treated rather differently. Those short term files which were active were retained by the allocated social worker in their own desk, or filing cabinet drawer, and the inactive, closed cases were stored in a common filing cabinet in the administration room or area. Active long-term files were kept in a filing cabinet either in the social workers' or the administration room and were stored alphabetically by client surname - not by social worker. Closed long-term files were kept in the administration room, with the older ones (sometimes numbering many thousands) being consigned to attics and storerooms. District A2 was a notable exception as it operated a "ruthless policy" of destroying out-of-date files: it

retained less than 100 closed long-term files, these being stored beside the active ones.

Department B did not have a policy regarding district organisation, and of the four districts visited two operated short-term and long-term teams and two did not. Neither was there a distinction between long-term and short-term files. As in department A closed files were stored in the administration room. Unlike department A, all active files (whether belonging to a worker classified as short-term or long-term or neither) were kept by the social workers themselves and filed alphabetically by surname in the social worker's own drawer(s) in a filing cabinet in his/her room - although the cabinet was of course available to other staff should the worker in question be out. Staff liked having a drawer with their own current cases in it - and indeed one district officer told me that when social workers became slack about placing "out" tabs in the place of files which they were temporarily removing (the tab meant that another social worker looking for the file would know where it was), he threatened them with a central filing system. Thus overall social workers in department B appeared to have more control over their own files: they were near their desk, and they were filed separately from those of other staff.

District B1

District B1 appeared to be nearer the mechanistic pole than most other districts visited. A district officer in another district said that the district officer here was "very much in charge" of his district. A social worker said that he (and the senior fieldwork supervisor) "do have their own ideas and impress them on you very much". The only organic indication (variable SV09) was that the views of seniors were seen as "extremely important" by only two social workers - less than in any other district. The difference was not statistically significant and was probably due to the strengths of the district officer and senior fieldwork supervisor, in comparison to whom the two seniors were, according to the same social worker, "not imposing".

Meetings were somewhat less frequent than in other districts. The district officer said they varied according to demand - and there had been less of late because the better staffing position meant that there were fewer grievances. However, in the short-term team

allocation meetings were held most days, first thing in the morning. Although there was considerable discussion in the meeting it was noticeable that there were no volunteers for cases, and all cases that needed allocation had to be assigned to a social worker by the senior.

The distinction between long and short term teams appeared more clear-cut than in most districts. In other districts it was not infrequent for social workers in the short term team to say that they occasionally held on to cases even after they should have been passed to long-term. In this district, however, a time limit of 12 weeks was several times referred to by staff as being fairly strictly kept.

Specialisation was particularly marked (CA01 in table 4.2b). Unlike other districts, the senior fieldwork supervisor spent her whole time on training activities - each social worker received two days training per month - and did not have any responsibilities as a team leader. The district officer said he did not want her "sucked into a senior social worker role", as could easily happen. Unlike some other districts, the workers with specialist job descriptions for dealing with elderly or disabled clients very rarely if ever were allocated other types of case. Thus one qualified social worker with experience in other districts said that this district was distinct in its "structure and specialisation". She was trained as a generic worker and would have liked a more mixed caseload "but it's largely arranged so that welfare assistants do all the CSDP work and social workers do children."

It was noted earlier (4.1.2c) that in general in department B the district administrative support sections were more developed, more autonomous from headquarters, and staffed at a higher level, than those in department A. Although this was true of all the districts visited, district B1 had suffered from extended absences by one of the two senior admin staff, owing to illness, rendering its staffing position perhaps as near to the districts in department A as to other districts in department B.

District B2

This district operated in a particularly democratic and participative fashion, and fell nearer the organic pole. This was in large part due to the district officer (4.3.3) and his staff selection policy (4.3.4). Most of the staff referred to the lead given by the district officer, in terms such as: "the district officer has ...

well, not dictated, but inculcated" a common and distinct attitude.

District meetings were held fortnightly, and both the chair and minute-taking responsibilities rotated. The rotation of minute-taking had been instituted following a complaint by administrative staff that they could not be expected to play the full part that was asked of them in meetings if they were also always responsible for servicing the meetings. District meetings were followed by training sessions organised by the senior fieldwork supervisor.

Allocation was conducted daily by a meeting of the two seniors. The meeting was open to social workers to attend although this rarely happened in practice. The high degree of informal contact in the district (4.3.3) helped to ensure that seniors were aware of the work pressure on each member of the staff.

As in all districts in the department there was a certain degree of specialisation with the welfare assistants being confined mainly to elderly and handicapped cases. However, unlike district B1, this did not mean that other social workers were largely restricted to child and family cases. Although there was no formal split into long and short term teams, the team supervised by the senior fieldwork supervisor generally took on the more complex cases requiring greater experience and skill. The district had held a one-day conference to discuss the idea of setting up an intake team, but the consensus had been that there were not enough qualified staff to make this feasible at present.

Variable CA02 indicated that a higher proportion of staff felt there was a "team approach" and a lower proportion an "individual approach" than was the case in any other district (although the difference was not significant at the 5% level). One social worker who had worked in a number of different offices said that this one "works better as a team" than did the others, whilst another said he saw his role

> "as a member of a social work team, and I emphasise the word team - I don't hesitate to call on the experience and backup of other colleagues in the team, unqualified as well as qualified. At the same time I feel that I can be called on in exactly the same sort of role by another colleague."

The administration staff in this district, possibly due in part to their full participation in the frequent district meetings, appeared to have a high morale and to be particularly well respected by the

social workers. There was a high emphasis on accuracy, and admin staff themselves would from time to time raise at district meetings the matter of inadequate form completion by social workers.

District B3

Although the division of responsibilities within this district was perhaps as clearcut as in any, communication between staff was not inhibited by this and the district had an effective "social centre" (4.3.3) in which the district officer and seniors were often found with other social workers. I have therefore classed the district midway between organic and mechanistic relative to other districts.

The most striking feature of district organisation was the extent to which administration had developed beyond its more basic role in other districts. Special procedures had been set up - some well before the introduction of the computer - for a variety of activities such as the processing of applications for disabled aids, and the allocation of new cases. The effect of these procedures was that district management and social workers could have a clearer idea of the current pattern of district or individual work, and it was easy to know where to look for what information. The senior team clerk was right in saying "We're pioneers in many ways in administration here". She had been teased by her colleagues in other districts about "milksopping" the social workers, but her view was that "It's our job to help the social workers function efficently". All new social workers in the district had to spend two weeks full-time working in the administration office to become familiar with the procedures and with the staff. The 'presence' of the administration was indicated in the replies by social workers to the question of who they would go to with problems or suggestions regarding the computer. Over half mentioned the administrative staff, the highest proportion in any district.

The supervision teams (which were not split into intake and long-term) had been encouraged to develop their own identity, with district meetings having been reduced from weekly to monthly and team meetings correspondingly introduced at one to two weekly intervals. Each team was also encouraged to introduce groupwork projects (4.3.2), and these included a foster parents group, a handicapped phone-contact self-help group, and a project on the use of volunteers. This high participation and belief in groups shows up in variables PE31 and SV46 in table 4.2b. Each senior was given certain responsibilities (for

example, for child care, allocation of places for the elderly, etc), and these were to some extent reflected in the caseloads of their supervision teams. The staff employed for specialist purposes (aids and adaptations, blind social work, etc) kept fairly strictly to the set role. Amongst other social workers cases were well mixed although, as noted above, the different teams had their own biases.

Allocation procedures were unusual. Responsibility rotated between the three seniors, with one being responsible each week for a daily "sifting" of cases at which all urgent and all simple cases were allocated or otherwise dealt with. The senior brought the remaining cases to a weekly meeting at which all three seniors were present. There was a "SASCO" wall chart in which cards with cases waiting to be allocated were inserted, the system allowing a queue of cases, with varying priorities, to be kept simply and effectively.

An unusual form of participation was the daily occasion when the district officer dealt with the mail: the senior staff (administrative and fieldwork) were all expected to come if they were free.

4.4 SUMMARY

The two departments/authorities visited were similar in many respects (4.1.1,4.1.2). The main organisational difference between departments was that department B granted considerably more autonomy to its district offices that did department A (4.1.2b,c), although at headquarters level department A was the more organic (4.1.3). In department B the social work staff in districts were rather more cosmopolitan and professionally oriented than those in department A (4.2.1) although the difference was not a large one. Districts B1, B2 and B3 provided examples of three contrasting organisational types (4.3). Districts B1 and B2 were a considerable distance apart on the organic/mechanistic continuum, with district B1 being the nearer to the mechanistic pole and B2 the organic. District B3 occupied an intermediate position, but was interesting because of the highly developed part played by the administration staff (4.3.5) and the unusual location of the VDU (4.3.3) - both of which factors will be seen later to have influenced considerably the reception of the computer in the district.

CHAPTER 5 THE CLIENT RECORD SYSTEMS AND THEIR HISTORIES

This chapter describes and compares the two projects investigated. Section 5.1 looks at the nature and operation of the computer systems, whilst later sections consider their history and development (5.2), the organisation of the project (5.3), and the education and implementation process in districts (5.4). Finally section 5.5 looks at a number of other factors affecting the process of computerisation - the motivation behind it, the use or otherwise of the experience of other local authorities, and matters relating to technical expertise and to the computer interests involved.

5.1 DESCRIPTION AND COMPARISON OF THE TWO SYSTEMS

In this section a factual description of the two systems is given, to provide the technical background necessary to understand later parts of this chapter and later chapters. The material is drawn in part from the system manuals prepared by the two local authorities, in part from other documents such as feasibility studies, and in part from discussions with staff responsible for design and implementation of the systems. I should make it clear that this chapter refers to the systems as at the time of my visit. In both departments further developments in design and use of the systems have occurred subsequently.

One of the main differences between the two systems was that department A's was much more comprehensive, in the sense of covering more aspects of the work of the department (5.1.2c). In my research I concentrated largely on that side of the system dealing with information on referrals, allocation, closure, movements, and reviews. This was for two reasons: firstly this is the part of the system most relevant to fieldwork staff - other parts of the system relate to other sections of the department such as home helps; and secondly this is the total area of work which was at that time covered by the system in department B, and therefore comparisons between the departments could be made more easily. Thus in sections 5.1.4-5.1.6 I will only describe those computer forms, visual displays, and computer reports in department A which are relevant to these areas of the department's work.

5.1.1 System Objectives

The objectives of the two sytems as described in the system proposals of the two departments, and subsequently repeated in their system manuals, were as follows. In department A:

> "The aim of the system is to build up and maintain over a period of time a central client index, covering the whole of the (local authority) area. On this index will be held details of all persons referred to the department. From this index the social worker in the field and management will be able to draw on up-to-date and accurate information to make, we feel, better judgements and decisions in their respective roles within the department."

In department B:

> "The overall objective of the computer system is to provide accurate and up-to-date information to personnel within the department when it is required, where it is required, and in the form that it is required."

In both departments the early documents then went on to describe the proposed inputs and outputs of the system, and procedures for its use. They also listed, in general terms, the advantages - and to a lesser extent the disadvantages - expected to result from computerisation. Not unusually (3.2), in neither department was there any serious attempt at the difficult task of quantification or detailed analysis of the expected benefits and costs. The objectives related solely to the introduction of a computer system and implicitly assumed that this was the most suitable method to "build up and maintain ... a central client index" and to provide "accurate and up-to-date information".

Although this is not clear from the stated objectives of department B, neither department was proposing to replace the social worker's case file and its wealth of narrative information. Both systems were restricted to storing information which could (to some extent at least) be codified, or which did not require a very large amount of storage space on the computer. In practical terms the intention was to provide a client index (covering the whole department) from which could easily be extracted details of individual clients, lists and statistical information, for social workers, administrative and management staff. The fact that each district would have immediate access to a list of all persons known to the whole department rather

than just to their own district office as before was seen as one important justification for the computer system.

A further objective was to try to coordinate work better in different sections of the department by having the basic information about each client available in one place regardless of which section of the department it had originated in. For example, although one district office in department A had a caseload of 400 clients (active cases) some 2000 persons in the area were known to headquarters through centrally operated services such as home helps. The extent of overlap was unknown. In department A sections of the department other than fieldwork were linked to the system, so enabling each section and central management to have a more overall picture of the work either with an individual client or in more general statistical terms. The linking of different sections of the department was a longer term objective in department B (5.1.2c), although the full potential was in some doubt because of confidentiality considerations (5.1.8d)

Apart from the stated objectives there were other factors behind computerisation in both departments, and these are discussed in 5.5.2.

5.1.2 Overall Description of the two Systems

There were a number of similarities between the two systems. Both relied for computer processing on a central computer in the Treasurer's department, and both had visual display units (VDUs) in all district offices. In some cases where two districts shared the same building, a VDU was initially shared between them. The basis of both systems was a computer file of information about individual clients. The systems relied for their inputs on information fed in by social workers and administrative staff in the districts and to a much lesser extent by headquarters staff. In theory information was always first entered on a form and subsequently typed onto the VDU from the form, although in both departments completed forms were sometimes not passed on for computer input and conversely there were occasions when information was fed directly onto the computer without a form having been completed. Output from the computer came in two main forms: by interrogation of the VDU, and by regular and on-request printouts from the central computer.

After this initial similarity the two systems diverged in a number of interesting ways described below (see also figure 5.1.2).

(a) Hard copy printouts

In department A a 'termiprinter' was attached to each VDU, allowing a 'hard copy' to be made when so desired of any information displayed on the screen. For the extra cost involved this brought advantages such as allowing administrative staff to get copies of information and providing basic information for the district officer or a senior when the social worker was out with a file. Although nearly all the information stored on the computer in department A was input and stored in code, the meanings of the codes appeared instead when the VDU was interrogated and when a hard copy was taken of a VDU display.

(b) Changes in client information

In department A all changes to information currently held on the computer about a client (eg review information or change of address) had to be notified via the appropriate form (review form or amendment form), a copy of which remained in the case file. There was no confirmation for the social worker (until the regular monthly printout of all their cases arrived) that the information had been entered, and entered correctly, on the computer. The case file did not contain a record of the information held on the computer, apart from the form or pile of forms used to set up and subsequently amend the computer information on that client. It had been intended during the design of the system that when information was entered on the VDU a hard copy should be taken and placed in the casefile, but in practice this very rarely happened.

In department B whenever information about a client was entered or amended on the computer a one-page carbonated printout of all (some, in certain rare circumstances) information currently held on that client was automatically produced by the central computer, was sent to the district, and was placed in the file for that client. When further changes were required the social worker amended this 'Client Information Sheet' (CIS) and sent the top copy for input of the change into the VDU. A new CIS was then automatically printed. This process had various advantages: firstly the social worker could rapidly check the returned CIS against the carbonated original to ensure that the change had been made correctly; secondly the file always contained an up-to-date picture of the information held on the computer; and also importantly there was no need for separate review and amendment forms for the computer as were needed in department A.

(c) Comprehensiveness of the system

The system in department A was much more comprehensive than that in department B in the sense of covering many more areas of the work of the department. This reflected the decision in department A to opt for the 'all-in-one' approach as opposed to the incremental approach (3.4.3g) favoured by department B. Thus in department B the system required only two forms - the referral form to provide initial information about a new client and a form to update information already held on the computer (the client information sheet, 5.1.2b). In department A, several sections (eg Placements section) of the department other than fieldwork were linked into the computer to a greater or lesser degree, and within fieldwork itself more of the functions were computerised. Thus in addition to the general referral forms (of which there were two - one for the 'principal client' and an optional one for 'household members') and two update forms (one for reviews and one for general amendments) there were 6 detailed forms for social worker completion in various types of assessments (home help, residential or day care for the elderly, etc) which together with various other forms made up a total of 13 computer forms. The department hoped to benefit from this broader system partly through having statistical information readily to hand on more areas of their work, but perhaps more importantly by the fact that it brought together the records on different aspects of their work with one client which had previously been dealt with and recorded quite separately. Thus by looking up the VDU it was now possible to see immediately which sections of the department were involved with any one particular client, and also because of this approach (often called the 'unit record' approach) it was possible to obtain statistical information on the nature and amount of such overlap.

Department B planned a similarly comprehensive system in the future through its incremental approach. Thus it lost, for the time being, many of the benefits attained in department A, but it gained through having a less massive task in initially introducing the system and persuading and training staff to use it. It also had more time to modify and adapt the system in the face of the problems which are only shown up once implementation gets underway.

(d) Content of computer files

(e) Use of coding

(f) Flexibility of the system for users

These three differences between the two systems can be more clearly described following table 5.1.3 and its explanation in the next section.

5.1.3 Content of the Computer Files

Table 5.1.3 indicates what information about clients each department held on its computer files. In the case of department B all the information stored on the computer has been listed. For department A only the information from the referral sheets and (most of) the information from the review form has been included - that covered by the 10 other computer input forms has been omitted.

Case reference numbers

A word of explanation is required as to how clients were indexed (item 21-23 in the table). In department A new referrals were numbered (item 22) upwards within each district (hence item 21) whilst in department B they were numbered upwards (item 22) within the department, with the computer automatically allocating the next free number when a new case was entered. These numberings referred to households and could be used in both departments to look up who was known to the department within that household. To get further information about individuals within the household, suffixes (item 23) were added. In department A each different member of the household entered on the computer (whether or not they were themselves clients) was indicated by a different suffix numbered upwards from 01. In department B the suffixes (A,B,C,...) were only used to indicate people who were clients in their own right and other household members did not have an individual reference although they were entered as a part of the household.

In department A a typical reference number would be 5-002143-03. This referred to the third person entered on the computer in case 002143 in district 5. This person might be either a client or a household member of a client. In department B a typical reference number would be 10214C. This referred to the third client in case number 10214 within the department as a whole.

Differences between the two systems

Table 5.1.3 illustrates the three differences between the systems mentioned at the end of 5.1.2. These are as follows (the lettering is continued from that in 5.1.2):

(d) Content of computer files

Not only was department A's system more comprehensive in the sense of covering more areas of work (5.1.2c); its content was also wider in that within each area common to the two systems (referrals, reviews, movements, closures) it generally had more categories. For example under reviews it coded up to 5 current problems (item 84) whilst in department B only one was coded - and this over-wrote the original presenting problem (item 34). It also included two categories (85,86) to describe the social worker's current task. The original client problem was described by two categories (items 34 and 37) with a total of 12x20=240 possible combinations of coded entries, whilst in department B there was just one category (item 34), with 75 codes available.

(e) Use of coding

Department A's system relied heavily on use of numeric codes, whilst in department B not only had "a conscious attempt been made to keep the use of codes to a minimum", but "mnemonic codes have been used wherever possible, to ease coding problems" (systems manual). Department B went so far (item 99) as to allow lines of 60 characters each (any number of lines) in which uncoded information (eg name and phone) about any other agency involved could be entered. Where codes were used they were alphabetic and mnemonic in all categories except one - the nature of the problem (34,84) - where some 75 codes were possible. Thus in item 33 (referral agent) department A used codes from 01 up to 34 whilst department B used 25 codes such as SELF, HOSP, GP, COUN, etc.

Department A justified its approach to coding on technical grounds (to save computer storage space) and on confidentiality grounds (most of the information held on the computer and on computer forms - though not on printouts (e.g. see 5.1.2a) - could only be interpreted with a codelist); whilst department B was aiming to make form-completion as simple and acceptable as possible for social workers and administrative staff. Department A recognised that its reliance on coding might bring problems. The feasibility study stated:

"I feel that the main problem area of this proposed system, will be the large amount of coding of information that will be necessary to ensure that case records are kept up-to-date, however I think this can be overcome by a good education program and emphasis being placed on value of the 'outputs' from the system."

(f) Flexibility of the system for users

Because of its desire to avoid coding and where necessary to use mnemonic alphabetic codes (which tend to require more character spaces than do numeric codes), the 'field' (i.e. the character spaces) provided for each entry in the computer files was generally larger in department B than in department A. The extreme case was 'other agencies involved' (item 99), as mentioned above. A result of this was that in department B the user had much greater flexibility in what could be entered. Two examples were the use of the 'other agencies' item to record more general 'other information' such as details of resources allocated to the household, and the use of 'street number' (item 03) to rectify the omission from the system of information about types of placements. Other examples are given in 6.1.2e and 6.2.5e.

Two points should be noted. First, this flexibility clearly was a quite unanticipated by-product of the design of the system with its wide fields and its use of alphabetic codes. Second, although such flexibility has benefits for the immediate user, if it is not controlled then different districts and users can use the system in such different ways that other people (for example at headquarters or in other districts) obtaining information from the system may be misled.

5.1.4 Computer Forms

Department A used 13 computer input forms in total, whilst department B used only 2 (5.1.2c). For the purposes of my research I concentrated on the forms central and common to the two systems - those for referral, review, movement. This involved both of department B's forms and four of department A's, as follows (copies are included as figure 5.1.4):

Department A	Department B
A1 Referral form - client (*)	B1 Referral form (double sided)
A2 Referral form - household members (*)	
A3 Review/movement form (*)	B3 Client Information Sheet (*)
A4 General Amendment Form	

(*) = plus carbonated copy

The use of the amendment and review forms (B3,A3,A4) was described in rough outline in 5.1.2b. All the forms will be discussed in rather more detail below, and to assist in this the example forms which are attached have been completed for a simple example case. It is not suggested that the most suitable form of action has been taken from a social work point of view or that the recording is ideal from that perspective. The example is intended solely to clarify the use of the forms.

Example Case

15.2.76 Mrs. Sandra Smith of 21 Leaf Street calls at the office with her son John, who was born on 12.2.73, to say that his behaviour is such that she can no longer cope. Her husband Samuel is out at work all day and John is just too trying to look after, especially as their house is small and badly affected by damp. The duty social worker (Ian Jones) suggests the possibility of a day-nursery place for John, and Mrs. Smith is happy with the idea.

18.2.76 The case is allocated to a social worker (Virginia Carter) who visits Mrs. Smith and arranges the nursery place. It is decided to review the case on 18.8.76.

28.8.76 The review is held. John is much happier now. The next review is set for 1.12.76.

13.12.76 The social worker has again visited John and Mrs. Smith and reviews the case with her senior. John has quite settled down and would now prefer to be at home with his mother as he has made some good pals in the street. The mother also favours this. The social worker thinks the mother could cope, so it is agreed. The social worker will also contact the rent officer, Mr. Jamieson, to see if the rent can be reduced as the damp is still bad. It is decided to review the case again on 13.6.77.

For this example case the forms have been completed as follows:

15.2.76 Referral - forms A1, A2, B1

28.8.76 Example forms for this review have not been included

13.2.76 Review - forms A3, B3

To preserve the confidentiality of departmental code meanings false codes have been assigned to them as follows:

CATEGORY	CODE	MEANING
Department A		
Marital status	02	single
Referral method	3	caller
Referral agent	12	household member
Client Group	09	child
Problem	03	child behaviour problem
Problem	12	accommodation problem
Task	04	mobilising departmental services
Resource	213	day nursery
Termination reason	02	aim achieved
Activity	04	Mobilising departmental services
Activity	05	Mobilising other agency services
Major change area	03	major environmental change
Department B		
Category code	E31	child behaviour problem
Category code	E34	family housing problem
Action	REV	review
Status	A	active case
Referral agent	REL	relative

Several of the differences between the systems as a whole (5.1.2) were reflected in the layout and content of the forms, as will now be seen. Discussion of use of the forms in practice is left to 6.1.4.

(a) Computer and case files

The computer was in no way intended to replace the case file, and so it was necessary that social workers should record information about clients in such a way as to provide both reference material in case files and also input data for the computer. The designers of the new forms, knowing that social workers would be loth to provide the same information in two different ways for these two purposes, therefore had to make their forms as far as possible serve both needs. The appearance and content of the forms reflect the success or otherwise of the designers in reconciling the two functions.

(b) Referral forms

A casual glance at the two referral forms - A1 and B1 - reveals two quite different approaches. Department A's form was basically a form for computer input. Even with the use of a codelist it would be an unenviable task to use it as a reference document in the casefile. A space was provided at the bottom for certain narrative information and a blank unstructured continuation sheet was available if this was insufficient. The largely unfulfilled intention of the designers that casefiles should contain a hard-copy of the information from the computer (5.1.2a,b) should be remembered here. The reliance on coding (eg compare the codes required by departments A and B in the description of the example case) led to a tendency to duplicate some of the coded information in narrative form, and hence the two functions mentioned in (a) of computer input and reference in the casefile were not properly reconciled in the design of the forms. Where a referral was a simple matter it was usually sufficient to complete form A1 alone, but where it was more complex or likely to become a long term case then forms A1,A2, and the narrative continuation sheet were all likely to be necessary.

Department B's referral form on the other hand was impossible to recognise as a computer input form, although clerical staff and some social work staff were able easily to do the requisite computer input from it. The one form satisfactorily performed the same function as the two forms plus continuation sheet that could be needed in department A.

(c) Reviews, movements, amendments

With regard to reviews and movements again department A's form (A3) was very much a computer-input form and difficult to use as a reference document. Department B's form, the computer-printed client information sheet, was more useful as a combined reference/input document for a number of reasons, although its layout was untidy and somewhat confusing. Firstly, once used to the layout it was in most cases immediately understandable without reference to a code-list apart from one item, the category code. Secondly, it showed the complete history with regard to review dates, movements, and past addresses on the one form whereas in department A one would have had to look through a pile of past A3's to ascertain this. Thirdly, when using it to update or amend the information held on the computer the

social worker had no need to enter information such as name address and case reference number as had to be done on form A3, thus saving time and eliminating some possibilities for errors. A drawback of form B3 was that it included no space whatsoever for narrative information about the current state of the case, and this therefore had to be entered separately in the casefile however short or trivial. The space on the bottom of form A3, on the other hand, was normally sufficient for a brief summary which greatly improved the usefulness of the form as a reference document.

With regard to amending information currently held about a client, form A4 was used in department A whilst department B relied on the client information sheet. The advantages listed above for the client information sheet are again relevant and significant in this case.

5.1.5 Visual Display Unit and Termiprinter

To the user a visual display unit (VDU) consists of a typewriter keyboard and a display screen. The keyboard enables the user to call up onto the display screen information which is stored in the central computer to which the VDU is linked by GPO cable. This is called 'interrogation'. The keyboard can also be used to edit or to add new information. If the information stored is too much to be all displayed on the screen at the one time (eg names and addresses of all Smiths known to the department) then it can be supplied in two or more screens (known as 'pages') one after the other, at a maximum speed controlled by the user. Passwords can be used to restrict access to particular information and to limit the ability of particular users to add or to edit information. The main use of a termiprinter is to print out a copy (called a 'hard copy') of the information currently displayed on the screen of the VDU with which it is associated, whenever this is requested by the user. All VDUs in department A had an associated termiprinter, but none were provided in department B (5.1.2a).

In both departments one VDU was located at headquarters and one in each district office - although in both departments some districts (A3,A4,B3) initially shared VDUs for about 12 months with other districts in the same building. The VDUs were placed either in the reception area, the main administrative area, or in the main room used by social workers, the decision as to location being largely left to

the districts themselves (4.3.1). In both departments it was recommended by headquarters that administrative staff do the main bulk of computer input, but it was left up to districts to work out in practice how far the VDUs would be available to social workers either for input or for interrogation, and this varied considerably (6.2.3d,6.2.4d,6.2.5d).

Several problems occurred commonly with the VDUs in both departments. Firstly the occasions when they were 'down' - i.e. malfunctioning, or switched off by central computer staff, or after 5pm and at weekends. Secondly, and particularly in the two pairs of districts which shared VDUs, there were problems when two or more people needed to use a VDU at the same time. A clerk inputting information from 10 or 20 forms could be interrupted a number of times by social workers or receptionists asking if they could use the VDU to look up some information. A further problem was that when the central computer to which the VDUs were linked was busy there could be a wait of a good many seconds for information to appear on the VDU screen in response to an interrogation. This was particularly irritating if several pages of information had to be looked up. Finally, a problem which irritated some staff who had to use the VDU for extended periods was glare and hum from the screen. No official recommendations about this had been made or considered in either department, but a few of the administrative staff had bought dark glasses to use. Research on the possible health hazards of prolonged use of VDUs is currently underway but is so far inconclusive, although most researchers advise operators to take periodic rests.

The information available from the VDU reflected what was collected on the forms (5.1.4). There were two aspects: firstly, finding out whether a particular person was known to the department (use of the computer as an index of clients and their household members), and secondly obtaining case information about a particular client.

(a) Use as an index of people known to the department

This was, at least initially, seen as the main purpose of VDU interrogation and explains why most districts sited their VDU in the reception area. In department A there were three methods of finding out from the VDU whether a person was known: typing in the address, the surname, or the surname and streetname. In each case the VDU would display brief details (name, address, date of birth, case

reference number) of all persons known at that address, with that surname, or with that surname and living in that street. In department B enquiry was only possible by surname; the VDU would then display a screenful of the alphabetical list of all persons known to the department, beginning with the name requested.

The problem of finding out whether or not a person is known is less simple than it at first sounds. One difficulty is created by common names. There may, for example, be 60 Smiths known to the department. In department A up to 5 names and addresses could be displayed on the screen at any one time (10 in department B), and so it might be necessary to call up to 12 pages of information (6 in department B) to locate a particular Smith - or to discover that they were not in fact known to the department. In department A the usual approach was to type in both surname and street name as these were both usually known, but again this could lead to the person not being located if they had moved address, or to a relative who might be involved not being located.

A second difficulty was caused by similar names such as Antony and Anthony or McAllister, MacAllister, McAlister, etc. This applied not only to visually similar names but also to orally similar ones, since many VDU enquiries were made as a result of a telephone call. A mistake could have serious consequences such as a client having a new file created for them, a second social worker being allocated to them and visiting them, and so on. In department A the computer was able to assist with this problem to some extent since it was able through a special program to associate names that were similar, so that for example it would retrieve MCs as well when a MAC was requested. In department B the fact that a section of the whole client list was displayed (and further pages could be called at will) allowed some degree of searching for similar names.

(b) Obtaining case information about a client

In department A one display screen was available (accessed by client number) giving referral and review information (as input from forms A2 and A3). There were also 14 other screens giving other client information such as home help assessment information, but which will not be described here as they were not central to my study. In department B client information was again accessed by client reference number. A first screen gave referral and allocation information, and

subsequent screens could then be called to list previous addresses, reviews, agencies, etc, as supplied from form B3. This use of the VDU was less frequent than its use as an index, and much less than its use for input of information. It was more important in department A since in department B the case file always contained the client information sheet (5.1.2b) listing all the information held on the computer about the client.

5.1.6 Computer Reports

Department A's hard-copy printouts of VDU displays were mentioned in 5.1.5 and department B's centrally printed client information sheets (which also served as the review, movement and amendment form, B3) in 5.1.4. In this section I describe the remaining printouts (usually called computer 'reports') from the central computer. These reports consisted of lists or tables produced by the computer from its files, most being produced at regular intervals for specific personnel and purposes. In the case of department A I will again (5.1) describe only those printouts relating to information collected on forms A1, A2, A3. In the case of both departments I will describe only those reports produced for the use of districts. Reports for headquarters were peripheral to my study, but were in any case still in a rudimentary state of development, and particularly of use, in both departments.

(a) Client indexes

In both departments complete lists of persons on the computer file were printed periodically and distributed to districts, with the primary intention of providing back-up information should the computer be down for any period. Their use in practice varied considerably between districts and between departments (6.1.3c). Their layout and content was also markedly different between departments, as is now shown:

	Department A	Department B
Content of index	All persons known to district	All persons known to department
Information given about each person on the index	Reference number Name Address Relation to h'hold head Client or h'hold member Resources allocated Social worker allocated Reason for closure	Reference number Name Address Active or closed (*) District (*) Soc. wkr. allocated (*) Closure date, if closed
Layout	- All items in words - Six lines per person	- Alphabetic codes where marked (*) above - One line per person
Frequency	Monthly	Weekly plus daily cumulative updates

The greater amount of information printed for each person in department A reflected the fact that the casefile did not contain a printout of the up-to-date information held by the computer on each person (5.1.2b). The amount of information printed, together with the fact that it was not in code, led to each person occupying 6 lines of printout, thus making a printout of all persons known to the department too bulky to be practical. Hence each district was supplied with a list only of those persons known to it rather than to the department as a whole. A second problem of department A's list was that it was up to a month out of date, although a 'referral book' (5.1.7) completed by the receptionist for all referrals could be consulted for very basic information about persons calling during the last month.

(b) Operational information for social workers and seniors

Both departments used the computer to send regular monthly printouts to social workers, seniors, district officers and administrative staff. The most important function in both departments was to provide monthly up-to-date caseload lists for each social worker and senior. Again the methods adopted by the two departments differed markedly. In department A one report was produced for each social worker listing a wide variety of information about his/her clients, whilst in department B some five different types of reports were printed, some

for social workers, some for district administrative staff, some for seniors; all containing much less information than department A's but all designed for their particular class of recipient.

In department A the caseload report was ordered by client group (item 37 in table 5.1.3), and the information provided about each client was:

Case reference number
Full name
Address
Date of birth
Date of next review due (+ asterisks if review now overdue)
Major change area (item 86 in table 5.1.3)
Resources allocated (87)
Resources needed (88)
Name of home or establishment (71)
Legal reasons for being in care (73)

Information was not printed in code and hence the information about each client occupied 15 lines (including blanks) of printout. As a result only 3 clients could be listed per page, and so caseload reports, were often 10 or 20 pages of (14" by 11") printout in length. Two copies of each social worker's list were sent to each district, one being intended for the social worker and the other for the relevant senior.

In department B the following reports (two copies of each) were sent to districts:

Report	Listed by	Distributed to
Caseload list	social worker	social worker senior
Children in care or under supervision	district	district officer senior district clerk
Reviews and visits (*)	social worker	social worker senior
Medical and school reports (*)	social worker	social worker senior district clerk
Birthday lists	social worker	social worker senior district clerk

(*) Outstanding reviews etc. were asterisked on these reports.

The last three of these lists were based on information from the

ACTIONS column of the client information sheet (item 81 of table 5.1.3). The birthday and report lists were used to remember birthday cards for children in care and to check that medical and school reports were obtained and satisfactory. The main printout - the social worker's caseload list - listed 28 clients per 9" by 12" sheet (one line per client with alternate blank lines), so that virtually all caseload reports occupied one or two sheets only. For each client the following information was listed:

Reference number
Full name
Street number and street name
Category code (item 34 in table 5.1.3)
Date of birth
Date of allocation of case

(c) Statistical information

Both departments used the computer to provide districts with monthly statistical information. Social workers received a breakdown of their own caseload by client group (item 37 in table 5.1.3). District officers and senior district clerks received a number of different analyses.

In general department A's printouts were considerably more comprehensive. For short term cases (ie in principle those which lasted less than 6 months), the categories analysed included the following:

New cases completed by the duty officer
New cases allocated to a social worker
Total number of referrals
Cases transferred to long term
Ongoing short term cases

These were all tabulated against:

Client group (item 37 in table 5.1.3)
Presenting problem (34)
Social work task (38)
Reason for closure (89 - termination of 'social worker activity')

Similarly the numbers of new and of all long term cases were tabulated against client group (37), current problem (84), social worker activity (85), major change area (86) and reason for closure (89).

Department B provided far less information, with the following

categories all being crosstabulated against client group only:

Current cases

New cases

Cases closed

Referral agent

Date of birth

Department B's tables were printed more compactly and on smaller paper and were simpler to refer to than those in department A.

(d) Other information

Additionally both departments offered computer printouts of meanings of codes, and both offered a service whereby districts could request information to serve particular one-off needs, such as a listing of or statistics about all persons with a certain category code, or all pensioners living in a certain area. Both departments were planning to train selected staff (usually administrative) in each district to be able to obtain such information themselves directly from the VDU without having to make a special request to the research officers at headquarters. In department A several staff were already beginning to use this facility - called FIND2 - at the time of my visit.

5.1.7 Procedures for Referrals in the Districts

This section describes the procedures by which the two departments dealt with referrals arriving at district offices; and how records of these were put onto the computer. The procedure by which changes to existing information on the computer were made was described in 5.1.2b. For simplicity I will take the case of a caller at the office, rather than referral by phone, letter, or other means. I will only give a general outline - the exact procedures differed according to the layout of district offices and the preferences of their staff: for example, whether the VDU was located in the reception area, the administration area, or the social workers' room; how near these rooms were to each other; and how the responsibilities for form completion and checking were split between seniors, social workers, and administrative staff. I will take the case encountered most often, where the VDU is in the reception area, which is located near to both the administration room(s) and the social workers' room(s).

With the above reservations, figure 5.1.7 indicates the procedures generally used in the two departments, and it can be seen that they

are fairly similar. In both departments an urgent case might follow a different procedure if the senior or the duty officer felt this necessary. The main differences between the procedures in the two departments will now be described.

(a) The use of the referral book

Apart from completing a referral form and entering client details onto the VDU, all offices in department A and most in department B also kept a book, usually in the reception area, where brief details such as name, address, case reference number, and name or code of social worker allocated were entered for all referrals. This book was seen as very important by the project staff in department A, whereas in department B it was largely left up to the districts whether or not they wanted to keep such a book. Its purposes in department A were:

- to ensure that referrals were acted on and subsequently entered on the computer quickly. Each caller was entered in the book on arrival at the office; and this entry had to be ticked when, after allocation, it was entered on the VDU. Seniors thus had the possibility of checking that all cases had been entered on the computer within a reasonable period, which was intended by project staff to be 3 days in normal circumstances.
- to act as a record of callers before they were entered on the computer. The receptionist, by checking the referral book as well as the VDU, could thus tell if a caller was known to the department.
- to act as a backup to the most recent monthly client index (5.1.6a) when the computer was down.
- to enable administrative staff to allocate new case reference numbers sequentially within their district.

In department B these considerations were all less important, or did not apply at all. Referral details were normally entered on the computer before the case was passed to the social worker (figure 5.1.7) and so cases were less likely to be lost before input, and there was less delay before input. The client index was printed weekly (and a daily cumulative update was introduced in the light of early experience) instead of monthly, and the computer allocated case reference numbers automatically when a case was first input to it.

(b) The VDU versus the printed client index

The original intention in both departments was that callers would always be checked on the VDU to see if they were known. However (6.1.3c) in department B the client index came to be used for, and later officially recommended as, the initial reference source.

(c) Length of procedures

Because of the procedures followed (see figure) a referral was likely to be entered on the VDU sooner in department B than in department A. On the other hand, the social worker in department A was likely to be given the referral to deal with sooner than in department B. In department B, for technical reasons to do with the design of the computer program, a further delay could occur before a social worker received a case where the case was a re-referral. This was because when existing case information was changed on the VDU only certain combinations of types of changes could be made on the one day: for example, if the record of a client's name, sex, date of birth and/or relationship to the household head were amended or added then the address of that client could not be amended on the same day.

(d) Checking of computer input

In department A the immediate checking that VDU input was correct was up to the person doing the input, and there was no subsequent check against the referral form. Inaccuracies might later be noticed on the social worker's monthly caseload (5.1.6b) but again it was unlikely that the social worker would check this against referral forms. In department B, however, the automatic printing and despatch to the district of a client information sheet whenever client information was entered or amended on the computer provided an automatic opportunity (5.1.2b) for the social worker to check the new information.

5.1.8 Confidentiality

Although all social workers would agree that confidentiality - the restriction to certain persons of access to information - is a vital element in their work with clients, there is disagreement on exactly what degree of restriction should be required. If a client reveals sensitive personal information to the social worker, should this information be restricted entirely to that social worker? Should it be revealed to the senior, the district officer, or relevant

specialist workers in the district? Or, is it confidential to the agency as a whole, so that it should be available to headquarters staff if necessary? Taking the net wider, should it merely be confidential to the local authority or just to all relevant agencies such as the doctor or the social security office? All these meanings were raised with me by different social workers (eg 6.3.6d) - and of course the point was made that the degree of confidentiality necessary depends on the type of information in question.

The introduction of the computer in social work does not make confidentiality any more or less important. The question of who has a moral right to have access to certain information should not be answered differently according to how easy it is to provide them with that information. However, because of the possibility it brings for wider access to information, and because of public worry about computers, especially where personal information is concerned as in social work, the introduction of a computer may well focus attention on confidentiality and raise the issue of who should have access to what. In the type of system studied a number of security measures can be taken in pursuance of the desired degree of confidentiality.

(a) Terminal security

Information about clients which was previously stored on cards or in files at district level is likely to be stored centrally as a result of the computer, thus providing the possibility (though not the necessity) of access to it through VDUs by headquarters staff, other district offices, other sections of the department, or even by other departments or agencies which are linked to the same central computer. Thus there is the possibility of changing the practical nature of confidentiality from 'district confidentiality' to 'departmental confidentiality', at least with respect to the information stored on the computer. This has both advantages and drawbacks, but if such questions are not discussed it may happen by default. In department A the possibility had been raised of linking parts of the social services system to the emergency admissions section of a local hospital, thus widening the degree of confidentiality outside the agency and indeed the local authority.

Both departments had introduced measures of 'terminal security', relying on a system of passwords. Both however had also accepted that, as far as certain basic information was concerned, complete

district confidentiality was not necessary; and indeed (5.1.1) the new possibility of access to such information by headquarters and other districts was one of the advantages that had been claimed for computerisation in the first place. Department A used a 'system password' which all users had to type in each time they wanted information about a client. In addition, much of the information displayed on the VDU screen, especially during input, was in numeric code (5.1.3d) and hence meaningless to an accidental bystander. Terminal security measures were more extensive in department B. Firstly a metal key was required to switch on each VDU. Second, there was a system of 'personal passwords' whereby each authorised user of a VDU could have their own individual password which had to be typed in together with their name and which was only valid from their own particular VDU. Additionally each person had a certain 'security level' known to the computer, which allowed them access only to specified types of information. A degree of district confidentiality was maintained: a district officer, for example, had access to any information about any client in his or her district but only to certain information about clients of other districts. The client index facility - to find out whether a person was known to the department and, if so, to which district - was available to all terminal users. There was also a master password, allowing complete access to all information in the system, for use by the project development staff.

(b) Security of reports

The type of computer system studied resulted in computer-printed lists of all clients known to the department, or to particular districts, or in particular client categories, becoming commonplace, and being continually transported from the computer room to the district offices and elsewhere, with the attendant risks of loss or of information being accidentally seen by unauthorised persons. This was particularly important since very little of the information on the reports was in code (in order that staff could more easily use it for reference purposes) and thus any printouts which were lost in transit could be very embarrassing to the department and possibly damaging to clients if found by a member of the public. Both departments had established procedures by which new computer reports were to be distributed and old ones collected and destroyed. In department A the

distribution list was kept at headquarters; whilst in department B copies were widely available in the districts, stating what reports would be printed and when, and who they were intended for. In department B it was initially decided to install a separate computer printer in the social services department to avoid any possibility of client information being seen by staff of an outside department (in particular the computer section) but this was later found to be impractical owing to the need for specialist staff to be on hand continually to operate and maintain the printer (5.5.4b).

(c) Length of storage

A further matter, closely related to confidentiality, where the computer again creates new possibilities and brings the issue into focus, is the question of for how long information about a client should be retained in the department's records. Again if this matter goes by default the danger of out-of-date information being used is enhanced beyond that in a manual system. When records are kept manually, old index cards or case files become dog-eared, may get filed away and lost, contain out-of-date forms, and generally begin to look less accurate and relevant. A computer record, however, does not get lost, and a VDU display or a printout look fresh and convincing.

On the other hand, computerisation also brings the possibility of operating an efficient 'file destruction policy'. In department B this had been done. Each category of case was allocated a certain time span, and once this had elapsed from the referral date, with no further action, the computer notified the relevant district. The computer manual contained recommended actions for the districts to take. For example it recommended that where no further action had occurred on a short term case for one year the file should be destroyed and the computer record deleted unless circumstances dictated otherwise. It is interesting to note that the file destruction policy, largely made feasible by the introduction of the computer, was such an innovation that the Department of Health and Social Security had been unable to provide guidance to the department when asked for comments on the idea.

(d) The emphasis on confidentiality in department B

In general (a)-(c) above suggest that department B took greater steps to discuss and define their procedures on confidentiality, and the implications for this of their new system. This impression was

confirmed by further evidence. Firstly, the computer manual, in its 70-page description of the system, included about 7 pages on security and confidentiality. It also contained as an appendix a copy of the 1973 Younger Committee's principles for the handling of personal information on computers (eg that the amount of information held should be the minimum necessary for the achievement of a specified purpose), and claimed that the system complied with these. Secondly, it was decided in department B to give overall responsibility for security to the assistant director for fieldwork. He then became responsible for maintaining the list of passwords ((a) above), ensuring the security of administrative arrangements for distribution and destruction of computer reports (b), and all other aspects of security. His responsibilities in this capacity were clearly laid down in the computer manual provided to all districts. In department A such responsibilites were not laid down in detail in any of the documents distributed to the districts and were not generally known. In department A, however, it was felt that the computer in itself was an added security measure compared to the previous manual systems; and that the degree of technical skill required to get access to information stored on it made unauthorised access, whether accidental or deliberate, most unlikely.

In discussions with the assistant director and the research staff responsible for computerisation in department B two interesting points regarding the concern for confidentiality were made - both on several occasions. Firstly, it was felt that the very heavy emphasis placed on confidentiality issues during the design and development of the system had perhaps created greater interest and concern about this amongst social workers than might otherwise have been the case. It was pointed out, for example, that in many social services departments social workers may sometimes leave casefiles containing highly sensitive information on their desks overnight, or on a car seat whilst on visits.

Secondly, the confidentiality safeguards built into the system were starting to be a restriction on its use and on the further development envisaged in department B's incremental approach (3.4.3g). Confidentiality had been preserved at district level in most respects: the object of the safeguards was to "preserve client confidentiality at a level not lower than that which obtained prior to introduction of

the system" (this object, incidentally, was not quite fully met: the information was stored centrally and could therefore all be accessed by the project staff who had a "master" password (5.1.8a)). Thus information (other than name, address, and a very few other items) about a client of one district could not be accessed by another district, and when the system was developed to include services to the client from non-fieldwork sections of the department this information would not be accessible to the fieldwork district dealing with the client (and vice versa). These restrictions were not so much technical as policy ones. However if not relaxed they were likely to become technical: so far only district information was on the computer, but future programming to incorporate other sections of the department might (if the present policy was retained) result in the programmes containing separate records for each section of the department (with each client being entered separately in each relevant record) rather than separate records for each client (with relevant sections of the department being noted in each client record). Thus the present approach would have made it much harder to see the whole provision for each individual client. Clearly this would reduce much of the potential of the computer, both at casework and planning levels.

However the importance which had been vested in the confidentiality precautions, which were widely known about at district level, made any change in policy difficult. One of the technical staff said: "This is a matter of fundamental importance which should be considered at all levels of the department and a policy decision taken by the senior officers group". A senior officer (quoted also at the end of 5.5.2a) who had always been wary of the influence of the computer company, explained how these confidentiality decisions had arisen: "We were afraid of the unknown - the computer technology and language were frightening, so we felt 'Let's put some chains on it'. And it was right to do this". The contrast in department A was marked: here sections of the department other than districts were already on the computer (in line with the "all-in-one" approach - 3.4.3g) and the ability of the computer to provide an overall view of all departmental resources involved with any particular client was heralded as one of its main advantages (5.1.1).

5.2 HISTORY AND DEVELOPMENT OF THE TWO SYSTEMS

Figure 5.2 outlines the development of the two systems from the time the local authorities decided to purchase new computers to the time when implementation was complete in all districts. It also introduces some important topics discussed later in this chapter: project organisation (5.3), and consultation and education (5.4).

Abbreviations and Definitions in Figure 5.2

C	senior project staff (systems analysts) from computer section
P	programmers from computer section
R	project staff from social services department
T	consultants from computer company supplying the authority
SSD	social services department
HQ	headquarters of the social services department
A1-A6	the 6 districts in department A, in implementation order
B1-B7	the 7 districts in department B, in implementation order

'circulated' - use of this word indicates that the documents referred to were circulated to all assistant directors, all district officers, and all senior district clerks.

5.2.1 Staffing of the two projects

In department A considerable staff resources were made available from the computer section and the social services department. For the 18 months of design and early implementation three very senior social services staff (5.3) worked virtually full-time on the project. Two computer development staff were fully involved for almost two years and during the 6 months of programming work the computer section made available up to 10 programmers. For the duration of the project the computer development staff were based in the social services department itself rather than remaining in the computer section. As implementation progressed in the districts, much of the day to day work was transferred to two administration staff from headquarters.

In department B, where the computer system was considerably less comprehensive (5.1.2), staffing was correspondingly less, with two social services research staff (of lower status than those in department A) working full-time on the project for the critical 12 months of design and early implementation, together with two computer experts and two programmers. There were other differences from department A, all of which had significant effects on the design of

the system. Firstly, the computer experts were consultants from the company that supplied the local authority computer rather than being employed by the authority. Secondly (5.5.4a), one of these consultants was seconded to the department for a considerable period before system design began. Thirdly, the computer section promised that it would devote a programmer full-time to the project for an indefinite period, unlike the situation in department A where development staff were allocated only up to a fixed date (April 1976, subsequently extended to April 1977). The programmer allocated to department B chanced to be quick in picking up systems analysis skills and so was able to play an important technical role after the company consultants had ceased their involvement.

5.2.2 Timescale and scope of the two systems

There are few innovative computer projects which have met their original deadlines. Departments A and B both completed implementation in all their districts some 18 months after the originally intended completion date. In department A this was largely due to an underestimate of the time required for design and implementation of the system. In department B the project initially suffered from a number of false starts and 'drifting' resulting in part from a lack of enthusiasm by some members of middle and senior management. Whilst similar attitudes were certainly present in department A, the different organisation of the project (5.3) meant that they did not significantly affect its timetable. A second delaying factor in department B, especially once implementation had begun, was the severity of hardware problems, in particular over the Post Office communications cables which linked district VDUs to the computer.

In addition, largely because of the unforeseen amount of time and work needed to design and implement their systems, both departments had to postpone and/or greatly reduce further phases of development which had originally been planned to run concurrently with part of the first phase, or immediately thereafter. In department B this is indicated in figure 5.2 by the fading away of the 'resources group' in August 1976. Although the same process occurred in department A this is not apparent from the figure because of the different nature of project organisation there, with the absence of formally constituted working parties.

5.3 PROJECT ORGANISATION

The organisation of the computer project in the two departments was markedly different, reflecting to an extent the structure and the style of management within each department (4.1.2, 4.1.3). Both projects, but especially that in department A, were associated with innovations in existing departmental structure. In both departments one member of the social services headquarters research staff was given a full-time responsibility for coordination of the project during its development and implementation stages.

5.3.1 Project Organisation in Department A

In department A a special 'development group' had been instituted shortly before the initiation of the computer project. It consisted of three officers whose previous rank was immediately below that of assistant director. This new group was of high status. It reported solely to the director, and was not responsible to the deputy director or any of the four assistant directors. The development group (although not set up solely for this purpose) was charged with the full responsibility for development and implementation of the computer system, and for this period it was joined by the two computer development staff who were seconded full-time from the local authority computer section (5.2.1). These five senior staff worked virtually full-time on the project for some 18 months. Arrangements for consultation with social work and other relevant staff within social services were almost entirely informal, with members of the development group calling on other staff for comments as and when they felt this was appropriate. The only exception to this was the 'Computer Working Party' which met weekly for about 9 months from June 1975, consisting of the 5 development staff plus the district officer and senior district clerk of the pilot district (District A1). Although having considerably greater manpower than department B's project, the group was working with the knowledge that the two computer experts would be returning to the computer section in April 1976 (later extended to April 1977), unlike department B where computer support (albeit at a lower level) was committed for an indefinite period - one reason for the adoption of an all-in-one rather than an incremental approach (3.4.3g) in department A.

Once the implementation phase was well underway, in late 1976 and

early 1977, there were two further developments relevant to project organisation. Firstly, district staff expressed serious dissatisfaction with the computer forms. As described in 5.1.4 the forms were in general more suitable for computer input than as documents for reference in the casefile. As will be shown in 6.1.4f, some staff indeed saw them solely as 'computer forms' and continued to use the pre-computer forms as well: there was also uncertainty as to what were the official intentions. This resulted in a 'Forms Working Party' being set up at the initiative of one of the district officers, and comprising two district officers, the assistant director for fieldwork, and the head of the development group. The remit of the working party was to look at all forms now in use and come up with recommendations for the future.

The second matter related to the original intention that once implementation of the computer system was complete then responsibility for its management would be transferred to the administration from the development group. This was set in motion in mid-1976 with the involvement of first one, then two, administrative staff in the implementation process in districts. However, as implementation proceeded it became clear that other arrangements would have to be made, at the least for an extended interim period. There were various difficulties. Firstly the technical expertise in the design and use of the computer system which had been built up by the development group was too great to be quickly and easily handed over to new staff. The system was large and complex and still undergoing modifications, and the staff controlling it required some understanding not just of how to use it, but of how it worked. Secondly, the development group had built up strong personal relationships with district staff (5.4.3a) - especially in districts A1 and A2 - and this undoubtedly gave the system a greater credibility at a time when many staff were suspicious of it. In view of this need for a continued visible commitment to the computer by senior management, and the common dislike by social work staff of administrative tasks, a transfer of the system from the development group to the administration section at a relatively early stage would have been likely to decrease what trust of it had been built up amongst fieldwork staff by the development group. Thirdly there was the need for continued development and experiment in the use of the system and the information from it, if

not in the design of the system itself. This was not a task appropriate to the administration, and there was therefore discussion of the need for a full-time senior post within the department to ensure that the potential of the computer to assist in all levels of management and planning was fully exploited. These problems were exacerbated firstly by the fact that since mid-1976 two of the three members of the development group had started work on other non-computer development projects, and secondly by the impending withdrawal of the computer staff in April 1977. The resolution of these management difficulties had not occurred when my fieldwork was completed, but it seemed likely that there would be continued involvement by the senior member of the development group rather than a complete handover to the administration as originally envisaged.

5.3.2 Project Organisation in Department B

Project organisation in department B was quite different. Here the entire project was organised through a number of representative working parties. Section 5.2.2 described a period of false starts in the early days of the project. Up to this point the project had no clear focus within the department, and responsibilities for it were not clearly allocated. A lack of positive enthusiasm by some staff thus allowed the project to drift. In January 1976, however, a body called the computer executive group was set up, whose composition (see table 5.3.2) was representative of all relevant interests and whose minutes were widely circulated within the department. The executive group met weekly (occasionally fortnightly) for the first 12 months of the project, during design and implementation, and subsequently it was re-constituted and met 4-weekly to oversee continuing development and extension of the system. The executive group was an innovation in departmental management - it was the first such body which did not have to report to the senior officers group (director and assistant directors) before taking decisions - admittedly it included three of the 6 assistant directors. It should also be noted that the executive group, including as it did a number of people of very high positions who already had full timetables, and meeting very frequently, represented an important commitment to the project by the social services department and the computer staff involved (company consultants and local authority computer section). The group set

itself an overall timetable, and set interim deadlines for different elements of the project development, even though this led to some complaints that consultation procedures did not allow enough time for effective comments to be made by district staff. The initiative for setting up the executive group and for instituting its timetabling procedures came largely from the computer company representatives, who wanted to ensure that the previous delays were not repeated. Attendance at meetings of the executive group was in general good. Towards the end of the first 12 months, when initial development was largely complete, attendance of senior staff began to drop off, but at this point it was confirmed that the group nonetheless retained its executive responsibility.

In addition the executive group set up various working parties - again representative and again with wide circulation of minutes. In the early days a 'resources group', which met fortnightly, discussed how the basic computer system could be extended into the work of the residential and day care sections of the department. However, as the problems and the work involved in implementing the basic system began to emerge, and since there was no great desire for computerisation by these two sections, the resources group ceased meeting (5.2.2). About a year later, in June 1977, with the implementation of the basic system largely complete, a working party dealing with the computerisation of functions of the residential section was set up. A further working party - the computer review group - was set up shortly after the executive group was re-constituted in early 1977. Its role was to monitor the progress of the basic system and guide its development, reporting back to the monthly executive group meetings. The review group played a very active role, visiting all districts, issuing detailed reports on the problems, complaints, and suggestions raised in each district, circulating these widely, and where possible and appropriate modifying the system and its procedures accordingly. A final feature of project organisation in department B, which has been mentioned previously (5.1.8) was that the assistant director for fieldwork was from the outset given a clear and widely publicised responsibility for all aspects of confidentiality and security associated with the computer system.

5.4 CONSULTATION, EDUCATION AND IMPLEMENTATION IN THE DISTRICTS

This section describes the documentation provided to fieldwork staff; the consultation, education and training as far as it involved districts; and the implementation procedure in districts. The distinction between 'consultation' and 'education' was noted in 3.4.2c. 'Training' refers to instruction of social workers and administrative staff in how to use the system, including the VDU, forms and printouts.

5.4.1 Documentation

Documentation of various types was provided in both departments at different stages (figure 5.2), and served consultation, education and training functions as indicated in table 5.4.1.

In department A a series of information mailings to district staff was planned. The first was a folder marked 'computer information', containing a letter from the director, a journal article favourable to computerisation, and handouts from the computer company about VDUs and termiprinters. The second included a paper 'Why this computer system?' which answered the sorts of objections that it was thought district staff were likely to raise, such as extra paperwork and the poor record of computer projects in other departments. No further mailings were sent out however, as no feedback had been received and it was felt that social workers were not paying much attention to them.

At the time of implementation in districts a detailed case study was prepared, with copies of relevant forms and VDU hard copies. The user guide was a 170-page manual which explained the functioning of the computer system to users: procedures for completion and routing of forms, VDU input and interrogation, etc. The guide was written before the experience of implementation in the pilot district, and the procedures were considerably modified at that time. Additionally it became clear that the user guide was too technical in style for most social workers. Hence following the pilot implementation procedural notes were drawn up in a more easily used format and complete with clear flowcharts. These were distributed to all staff in districts A1 and A2 but, due to an administrative mix-up, not in other districts. Even in these two districts most staff were not aware of the procedural notes and if they did need to refer to a written document

they would turn to the better known and more official looking user guide rather than the stapled-together notes. However, it should be mentioned that in both departments most staff rarely if at all referred to written documents, preferring to ask colleagues or to use the "most obvious" approach or to bypass the difficulty altogether in some other way.

In department B at an early stage the feasibility study and four background papers on confidentiality, VDU location, implementation procedures, and staffing implications of the computer were circulated to all district offices for comment. A 'laymans guide' outlining the proposed system, stating why it should succeed when others had failed, and including detailed sections on confidentiality and security, was circulated to all social workers, with roughly the same intentions as the 'mailings' in department A. As explained in 5.3.2 the minutes of the executive group and its subcommittees were circulated to districts for information and comment as were working papers - for example on coding and file destruction policy (5.1.8c). At the time of implementation a systems manual was made available. This was of about the same size as the user guide in department A, but differed in various respects which made it more satisfactory to use. Firstly the manual was split into two parts, with the description of how to use the VDU being in a separate section, so that social workers not wishing to do this could omit the section (a substantial section of the whole manual) entirely. Secondly, the language and presentation was less technical. Finally the manual gave a more rounded description - rather than just detailing the procedures it included sections on confidentiality, management of the system, responsibilities of staff, tables showing the distribution list and dates for computer reports, and so on.

In both departments the documentation was seriously deficient in not discussing how the computer could be used in the day-to-day work of districts and social workers. Neither suggested to social workers and seniors how computer information might be used in supervisions, caseload management, and for reference. In department A the computer development group had gone to considerable trouble to incorporate codings that could be used in a caseload review system developed by the National Institute for Social Work, but nowhere was this review system even mentioned, let alone described, in the documentation!

5.4.2 Consultation and Education

Consultation about the design of the system posed a number of problems in both departments. Firstly many social workers did not want the computer, or regarded it as irrelevant to their particular job, and hence were not very interested in commenting on it and contributing to its development. Secondly (3.4.2a) it can be difficult for the lay person to comment on computer applications - and if senior management and even the project staff from social services found this difficult in the early days (5.5.4a) it was clearly even more difficult for district staff. Whether or not district staff were in fact competent to comment, certainly many felt that their lack of knowledge disqualified them from saying anything useful. Thirdly, both projects suffered delays (5.2.2) and there was something of a feeling of "I'll believe it when I see it", which did not encourage district staff to spend their time responding to invitations for comments. Finally, in both departments once development was underway there was considerable pressure on the development staff to get the system implemented as quickly as possible (eg 5.3.2).

In department A the organisation of the project (5.3.1), with a largely autonomous development group, was not such as to demand consultation. Hence although the project staff would have liked greater consultation in principle, the four factors listed above militated against it. The lack of response by social workers to the information mailings (5.4.1) in early 1975 and the negative attitudes to computerisation expressed at subsequent meetings between district and project staff persuaded the development group to concentrate on system development. Informal consultation with relevant individuals was conducted where appropriate, but without further attempts at the more general consultation or education which had originally been intended, and which were now left until the project was ready for implementation in districts. It was also felt that rapid staff turnover at that time rendered a continuing education exercise to some extent wasted effort.

In department B the way the project was set up (5.3.2), with representative committees and widely distributed working papers and minutes, meant that a considerable degree of consultation was certain. Unfortunately, apart from some members of staff who showed a positive

interest in the developments, the four factors listed above meant that this consultation although useful was less effective than it might have been. A pilot study of the referral form and the coding system in district B1 provided one useful means of consultation on these two features of the system. A gradual process of education also took place, as summarised in figure 5.2, with meetings at all district offices, and demonstrations for all interested social workers on the headquarters VDU when it was installed. Again, the steadier program of education seemed to be related in part to project organisation. One of the development staff was responsible for information and education, and had to report back on his activities at the weekly executive group meetings. The continued involvement of the district officers and senior district clerks, at least to the extent of being kept informed through minutes and at district officer and district administration meetings, probably also made this exercise easier.

The comments made so far apply to the stage prior to implementation. At this point the computer became a reality for district staff, and many more comments and suggestions were forthcoming. In both departments a considerable number of relatively minor modifications resulted - changes to codes, printouts, procedures, etc. In department A implementation in the first district was termed the 'pilot project' and there was an expectation amongst the development staff that things could not be finalised completely until after it. Even at this stage, however, few suggestions were made for more basic changes to the system, again reflecting the difficulty of lay people in knowing what is possible in a technical field of which they have no experience (3.4.2a).

Following implementation department B set up the computer review group (5.3.2) which visited all districts for a full day and issued detailed reports on each, including the suggestions and comments made by staff during the day. This process of consultation was more satisfactory because the staff now had something concrete to comment on. In department A consultation continued to be informal. Because of the success of the implementation exercise in the early districts (5.4.3a) district staff would now phone in with queries and suggestions. However, the absence of any formal machinery of consultation was still noticeable. One district officer wrote a detailed paper of criticisms and comments in October 1976, and

circulated this to the development group and other district officers. However, as there was no forum in which this had to be discussed and answered it was taken as being 'for information', and the author received no real feedback or assurances regarding the points he raised.

Oversell

In both departments, and in common with the introduction of many computer systems, education about the computer tended to have an element of 'oversell'. Partly in order to overcome the reluctance of social workers, but perhaps even more because of the enthusiasm of the personnel directly involved in the computer project, statements and promises were made which the reality did not always fully match up to. For example, 'instant' information was promised via the VDU, but little mention was made of the delays that would result when someone else was using it, when the central computer was 'down', or when it was necessary to look up a number of different screens before finding the required information - factors which could make interrogation of the VDU take longer than looking up the old manual card index which the computer had replaced (6.1.3b(ii)). In department A's education process much was made of the more dramatic benefits the computer would bring such as its use in providing lists of vulnerable old people in any future fuel crisis (the memory of the recent crisis was still fresh in many social workers' minds), although this was not one of the reasons for its introduction. Social workers were less happy when they later discovered that this benefit meant an extra question 'method of heating' on the referral form, and a number in practice soon gave up asking the question at all. This element of oversell (in both departments) increased the dissatisfaction felt by social workers when technical problems (5.5.5) arose during implementation.

5.4.3 Implementation

(a) Implementation in department A

If the education and consultation exercises prior to implementation were more satisfactory in department B than department A there is no doubt that, at least in the early districts, a massive education exercise was conducted during implementation by the development group in department A. In district A1 implementation commenced with installation and testing of the VDU, followed by a one day teach-in

for all the district staff. This was held in an informal atmosphere in comfortable premises hired for the day, and included an introduction by the Director, a company film about computers, various talks about the system, a case study, and questions and answers. All the development staff were present, and social workers were able to get to know them over lunch and coffee. For the next 4-5 weeks the development group were in the district office every day doing the transfer of existing cases onto the computer. This required up to three days sitting with each social worker to transcribe their cases onto computer forms, and then typing them into the VDU. At the same time the project staff were instructing social workers (in particular) in the use of the forms and administrative staff (in particular) in the use of the VDU. Subsequently members of the project staff were frequently seen in the district for the next 4-5 weeks checking data on the computer and answering queries. The presence of such senior staff from headquarters for such an extended period in the district, and their being seen working very hard doing the basic groundwork for the system, was an important factor in its acceptance by the district. At this stage the project staff often worked into the evening, and once through a complete weekend. Also important was the informal and friendly atmosphere which developed during this period between the district staff and the project staff. The implementation period culminated with an invitation from district staff to the project staff to join them in a celebration at a local pub - and this was from a district which in earlier days had been outspoken in its criticism of the idea of computerisation. The director said of the project staff's work here: "They've done a brilliant job - you can put a ring around that!"

Implementation in subsequent districts followed a progressively less intense pattern. In districts A1 and A2 the teach-in lasted a whole day; in A3 and A4 half a day, with no film; and in the last two districts it was held in the district office, in one case comprising members of the project staff sitting with small groups of social workers at their desks for about an hour to explain the working of the system. In district A1 the user guide was distributed to all staff; in district A2 to the district officer, seniors, and the senior clerk; and in subsequent districts to the senior clerk only. In district A2 the project staff were assisted in the transcribing and input of cases

by one member of headquarters administrative staff; and in subsequent districts this was done almost entirely by two administrative staff. This pattern was due in part to the pressure to complete implementation before the computer staff were due to withdraw in April 1977. In part also there was a growing experience of and confidence in the system, which meant that implementation in later districts raised fewer technical and procedural problems; and there was an understandable reluctance by project staff to devote themselves quite as intensely to implementation as they had done in the first district when the whole future of the system had been at stake. Also, there was a continuing lack of enthusiasm about the computer - although an acceptance of it - by many district and headquarters staff other than the development group. The development group felt that only once implementation was complete would the benefits for all levels of management be properly seen, and only then would there be time adequately to train staff in how to use the system to achieve such benefits from it. Finally there were external problems in some of the later districts. Districts A3 and A4 shared a building (as a result of which only one VDU was initially allocated between them), and this building also housed headquarters (so the staff were particularly sensitive to any developments which they feared might lead to greater oversight by senior management). Also in district A4 the district officer was due to retire shortly and hence did not feel it relevant to become au fait with the computer.

(b) Implementation in department B

Implementation in department B differed in several respects. Firstly, the system, being much less comprehensive (5.1.2c) than that in department A, required considerably less time for implementation and training. Secondly, nearly all of the work of transcribing and input of cases was done by the district staff (mainly administrative) themselves. This was possible partly because the amount of work - although very considerable - could be coped with by the districts; partly because it was simpler; and partly because the department in general gave greater autonomy and responsibility to districts and to district admin staff (4.1.2b,c). The greater autonomy of districts was also indicated by the fact that two of the four which I visited devised their own 'pre-computer' sheets onto which case details were transcribed prior to input to the VDU, whilst the other two did it

direct from their card index with reference to casefiles where necessary. Thirdly, two basic elements of the system - the referral form and the category codings - were introduced in all districts at a common date, prior to the implementation of the computer-based elements (cf 3.4.3f).

The implementation procedure in districts started with installation and testing of the VDU and with up to two days training for two of the district administrative staff, either at headquarters or in a district already using the computer. There was then a 'pre-implementation' meeting held in the district, attended by two or three of the development staff, a company consultant, the district officer, and the district administrative staff, and lasting from one to three hours. Here the system and its use were explained in detail and questions were answered. Subsequently it was up to the district staff to get their cases onto the computer, which usually took up to 4 weeks for current cases. For the first week after their VDU went live (declining to one or two days in the later districts) one of the project staff stayed in the district to assist anyone who had problems using the VDU or other parts of the system. As in department A the first district (B1) to go on the computer was also intended as a 'pilot', although certain non-computer aspects (referral form and coding system) had already been piloted there earlier. Because of this, regular weekly meetings were held in district B1 between the project staff and the district officer, a senior, and the administrative staff, from September to December 1976.

Although the project staff were probably almost as well known to the district administrative staff in department B as in department A (and this was reflected in frequent phone calls for advice and assistance in both departments), the different implementation processes resulted in project staff being much better known to social workers in department A than department B. When I asked social workers to state the names of all the project staff they could remember the results were as shown in table 5.4.3. In the first two districts in department A district staff and project staff both agreed that the project staff had been like a "part of the district", whilst in department B one of the project staff told me he still felt a bit like an "outsider" and felt nervous about "telling staff how to do their own job."

A problem (5.5.5) which dogged both departments during implementation was weaknesses in the software and failures of hardware. Without doubt the worst such problems were the hardware failures in department B, which caused endless frustration in district B1 after implementation, in district B2 during implementation, and a delay of several months before implementation was possible at all in districts B6 and B7. The reaction of social workers to such frustrations was not helped by the rosy picture (5.4.2) of the computerised future which had been presented during the period of education prior to implementation.

5.4.4 Training

The training given by project staff before and during implementation was described in the previous sections (5.4.2,5.4.3), but certain points which help to explain why it took the form it did will be noted here. Certainly the more complex system in department A required more training than did that in department B, but the greater comprehensiveness of training in department A (largely in districts A1 and A2 only, however) was again in part due to the structure of the department and the amount of manpower allocated to the project. In department A the whole implementation process was run by the project staff, and so they devised the case study used at the teach-ins, and they spent much longer in the districts where they sat with staff and were able to answer questions and explain the system directly. In department B, in line with the greater autonomy of districts (4.1.2b), responsibility for training of social workers in the completion, routing and use of the new referral forms and client information sheets lay largely with the seniors in the districts, and as they had received no such training this often ended up with 'picking it up on the job', as several social workers expressed it. Because of this allocation of responsibilities project staff were wary of taking initiatives regarding formal training. District administrative staff, also, were in general less satisfied with their training in department B. In both departments inadequacies in training were rectified through learning from colleagues and phoning project staff for advice. In department B the systems manual was of greater assistance than that in department A (5.4.1).

In both departments adequate training was rendered more difficult by

the pressure of time on project staff. Development of the system and ironing out of technical problems generally took a high priority. The degree of training that would be necessary had not been fully realised in the early days of the project, and by the time that the need became apparent to project staff pressure of time gave them little opportunity of doing more than responding to specific requests for help and advice. In section 5.4.1 I pointed out a serious deficiency of the computer documentation in both departments in not discussing the uses of computer information for district staff - for example in caseload management. This was equally lacking in training procedures in both departments.

5.4.5 Local Publicity

In both departments a number of social workers had been particularly concerned that the public, and clients in particular, be informed of computerisation in case people had objections and to allay fears when clients called at district offices and suddenly discovered they were to be entered on a computer file. Both departments therefore released information to the press and through the councils' own door-to-door newspapers at about the time of implementation, and one department also put up notices in district office reception areas. Examples of the press coverage are shown in figure 5.4.5. The reports were straightforward and unsensational and neither department reported receiving any comments at all from members of the public as a result of them.

5.5 OTHER FACTORS AFFECTING COMPUTERISATION IN THE TWO DEPARTMENTS

The use made of the computer system and the reaction of social workers to it depended in part on the factors discussed earlier in this chapter. In this section some other important factors which also affected its development, use and image will be described.

5.5.1 The Previous Manual System

In both departments similar advantages over the previous manual system were expected from the computer. All districts kept a card index of (in theory) all persons known to them, of which the main purposes were to reference case files and to identify callers at reception. At headquarters a central card index of all persons known to any district in the department was held, its main purpose being to allow districts to discover by a phone call whether a person was known to any district of the department other than themselves. There were also various subsidiary card indexes such as registers of blind persons and of children in care, from which annual returns for central government were compiled. All the indexes were normally updated by administrative staff from carbonated copies of forms completed by social workers. The computer was intended to replace the two main sets of indexes plus most of the subsidiary ones. The computer forms were intended to replace existing referral, review and change-information forms.

As far as the districts were concerned, although there were drawbacks with the manual system they in general felt it reasonably satisfactory. The main grouses from social workers related to the amount of paperwork involved, and from the administrative staff to the poor quality of form-completion which meant that they often had to go back to the social worker to remind them to do a form or to get extra information. Problems with the card indexes included cards being mis-ordered, duplicated (for example if a social worker 'borrowed' a card and the relevant person happened to call at reception whilst the card was out), lost, and out of date; but the district administrative sections were nonetheless able to keep their indexes in a state that satisfied most of the social workers reasonably well. In general the district recording and indexing systems, despite the problems mentioned, were not seen as seriously inadequate, especially in comparison with other worries of the districts, for example persuading

their departments to second more social workers onto professional courses.

At headquarters, however, the manual systems were seen as being seriously deficient. Both departments had been greatly enlarged at the time of local authority reorganisation, and as a result of this and other factors there was considerable duplication and overlap of forms. In department A 13 forms were introduced by computerisation, but the number of previous forms which these were intended to replace was somewhere between 30 and 150 (I received a number of widely varying estimates). Whilst this was not too serious for districts, which dealt largely in individual cases and which had established their own patterns of which forms they regularly used, it was a problem at headquarters where comparisons and overall statistics were often required. Additionally many of the manual forms were carbonated. The referral form most widely used in department B had 5 carbon copies in different colours for different purposes: one senior district clerk told me that they had stopped sending two of these to headquarters sections when they discovered that they were not in fact used there. In both departments the central card index was also felt to be inadequate, and had largely fallen into disuse. The work involved in maintaining it, and getting the regular flow of information from districts necessary to do this, was seen as expensive in relation to the limited benefit gained from it. Additionally it only covered persons known to the fieldwork section of the department, and headquarters had no one source of information which would tell them about every person involved with <u>any</u> section of the department or which would tell them which different sections were involved with any one particular person.

Whilst such inadequacies in the manual system, as perceived by some headquarters staff, were by no means the only factor behind the decision to computerise (5.5.2), they certainly tied in with it and enabled the case to be argued more strongly. A senior officer in one department said that manual records had been "chaotic", and that this had become particularly obvious "when the dust of reorganisation had settled". Both departments knew they would have to improve their existing systems, and both saw the computer as an opportunity to do this. Moreover, few relished the idea of devising an improved manual system only to have a further upheaval when the "march of progress"

demanded computerisation soon anyway, and so preferred to get on with it now. Whether or not this necessary enhancement to and reorganisation of recording systems was something that could have been done equally satisfactorily without a computer was not a topic that received much attention.

5.5.2 Factors in the Decision to Computerise

The 'public' objectives of the proposed computer client information systems related to the inadequacy of the existing manual systems (5.5.1) and the anticipated benefits (5.1.1) of computerisation in terms of assisting all levels of management within the department - from caseload management by social workers and organisation of records by administrative staff to long term policy making at the senior officer level. However, in both departments the decision to computerise, and to some extent the eventual success of the projects, also depended on two other factors, one internal to the department - the enthusiasm of the director - and the other external - the enthusiasm of the local authority's computer section and/or the computer company which supplied the local authority's computer. In department A the director's enthusiasm was probably the prime motivating factor, whilst in department B the enthusiasm of the computer company may have been even more significant - it certainly meant that the department was offered a more attractive package than they could normally have expected to receive. The presence of these two factors in both departments also goes some way towards explaining why neither department (in common with most other early social services computer information projects - see 3.2) conducted a detailed comparison of the costs and benefits of computerisation versus improved manual systems.

(a) The role of the computer section and the computer company

In both authorities there was considerable enthusiasm for a social services computer project from outside the department itself. In department A this came from the treasurer's department and its computer section and, to a much lesser extent, and only at certain stages, from the computer company. In department B although the computer section was again enthusiastic the greatest external pressure came from the computer company. In both authorities the commitment of the computer section was expressed in their allocation of development

staff to the project.

At around the time of local authority reorganisation both authorities - in common with many others - decided to buy large new computers. Both were keenly wooed by various computer companies who in an effort to win the contract and to sell advanced equipment put forward proposals as to how the computer could be used for non-numerical applications such as on-line information systems (1.1) in housing, social services, and other departments. Such proposals were demonstrated to councillors and chief officers during visits to company offices and research establishments, and the mutual discussions on such occasions enabled companies and computer sections to assess which departments were most enthusiastic about computerisation. In both authorities the interest expressed by the social services director rendered social services an area for a possible application. In department A the director (4.1.2a) had already laid the groundwork in early discussions with the treasurer's department, and in this authority the meeting of chief officers decided at the time of purchase of the computer to recommend that social services would be one of the first two departments to develop a major non-numerical application. In authority B the purchase of the computer preceded the decision as to which department would have the first major application, and subsequently the computer manager and a company representative approached all departments to discuss their possible computer requirements. The computer manager and the company expressed their interest in assisting in the development of a social services system; the social services department, after internal discussions down to district officer level, agreed to the company conducting a feasibility study; and the chief officers group then agreed to social services becoming a major user of the computer.

In department A there was no company involvement in the design and development of the social services system, apart from the normal service of answering particular technical queries that arose during development and implementation. The company was very well established in neighbouring local authorities and, being aware of the difficulties that other social services departments had run into in computerisation, it had no great incentive to devote resources to such a project. However, once the authority had overcome the obstacles and developed and implemented their system the company again developed an

interest: it provided facilities for giving demonstrations to other local authorities, and later a job for the systems analyst who had been primarily responsible for the technical development of the system.

In authority B the computer company played a major role throughout. They were very keen to demonstrate the potential of their computers and support staff since no other authorities in that region used their machines despite the fact that a company research centre (one of whose specialisms was advanced applications for local authorities) was situated there. A successful social services client information system, after the difficulties experienced by other local authorities, could be expected to bring considerable rewards. As a result the company were willing to devote resources to the project, and the social services department was able to beat down the price for the services of the two company consultants to about 25% of the going rate. But as one member of senior management stated there were dangers in having such close company involvement. He would have liked "an independent feasibility study from outside", rather than one by an interested party. Some of the effects of the close company involvement, in a department where no one had computer expertise, will be mentioned in 5.5.4b.

(b) The enthusiasm of the director

To decide to go ahead with a computerised client information system in 1974 a social services director had to be enthusiastic and had to be quite convinced that he was capable of ensuring its success. Not only did he have to make the case within the authority, when other departments were also wanting to use the available computer development resources, but he had to fly in the face of the disappointing experience of almost all other social services departments which had tried to develop an advanced computer system (3.3.3). He had to be willing to "take the bull by the horns", in the words of department B's computer manager. Both directors in the two departments were in this mould, and both had a reputation for innovation. Department A claimed to be the first in Britain to have a 24-hour emergency phone service based at headquarters, so that there was one phone number which could be publicised in leaflets issued to the public at which one could guarantee always to be able to contact a social worker; they claimed to be the first to have introduced a

mobile work unit for handicapped people; and they also had radio telephones for use by social workers on emergency duty. In department B the director had (in conjunction with a national voluntary agency) recently set up one of the largest job creation schemes in Britain, involving over 250 unemployed young people in social service.

Both directors had been criticised in print to the effect that the other side of the innovation coin is that of gimmickry. A number of social workers in both departments claimed that it was paradoxical that their authority - and both authorities were amongst the poorest in the country and showed up badly in inter-authority 'league-tables' such as the proportion of social work staff who were professionally qualified - should be attempting to develop an advanced computer system where others better endowed had already failed or run into serious difficulties. Certainly one of the directors felt that the computer, once it succeeded, would give a boost to the reputation of his department and his authority: even if they were poor in resources they could get things done. He was later to be proved right, in that both departments are now receiving enquiries from many other authorities about their systems.

The director in department A also felt that his department would benefit within the management structure of the local authority (4.1.2a). The fact that his department was the largest user of the central computer gave it an added authority and control over the allocation of resources between departments. Statistical information from the computer could be used within the chief officers group to the benefit of social services clients - if a major transport or planning decision, for example, was to be made he could come along with statistics on the location of the elderly or handicapped and so perhaps influence the outcome to their advantage and that of the department.

Although both directors were enthusiastic about their projects both were aware of the difficulties experienced elsewhere, and for this reason national publicity about their schemes was kept at "a low profile" during the development and implementation stages, consisting of little more than answering queries from other authorities who had heard of their developments through informal contacts.

In neither department was the director's enthusiasm shared by all the senior management. In department B this was one factor causing

initial delays (5.3.2), whilst in department A the organisation of the project meant that those who were unenthusiastic had less control over its progress in any case (5.3.1). Simil arly, many social workers were unenthusiastic. Although they did not have much definite information about the factors behind the introduction of the computer, many suspected (6.3.5b) that there had been an element of coercion by the computer company or by the local authority - to ensure that its new computer was not running with a lot of spare capacity - or that the intentions of computerisation were not solely to assist the work of the department. One district officer in department A said:

> "Have the merits and potential of our existing manual systems been thoroughly examined? Or have management prematurely responded to an unreal situation with a readily available alternative in the form of plentiful computer time?"

5.5.3 Previous experience in Other Departments

This section describes first the attempts made by the departments to learn from experience elsewhere, and second how far their projects did or did not follow the 'conventional wisdom' which had grown up in journal articles and inter-authority discussions (3.4).

(a) Use of experience of other local authorities

Both departments built on the experience of others to some extent. This was particularly so in the case of department A, where all five project staff visited East Sussex, Kent and Bradford (whose system had just been abandoned at the time of their visit). Additionally one member visited the National Institute for Social Work and one already had experience of the Lancashire computer system. My discussions suggested that the project staff had learnt a lot from these visits, and the director confirmed this, saying that they had had "a profound effect". The first lesson was the importance of a large-scale education process, especially during implementation, because of the antagonism that was felt by many social workers. Secondly was the importance of an on-line system. They had been particularly impressed by East Sussex in this respect and, conversely, the failure of the Bradford system had been due in part to the 7 to 14 day turnaround period entailed by their batch system, which required forms to be sent to a central computer, and printouts posted back, as the only means of putting information on the computer or of retrieving it. Thirdly was

the importance of management commitment to the system. Lack of this had been another factor contributing to failure in Bradford; and the unusual organisation (5.3.1) of department A's project reflected the importance placed by the director on those staff with any form of management control over computer development being fully committed to it. Fourthly the project staff decided to go for all-in-one development rather than an incremental approach (3.4.3g). This was partly forced by the fact that they only had access to computer development staff for a limited period, but it was confirmed by their impressions of East Sussex where they felt that the incremental approach had made it difficult to move past the first stage of a basic client index. The East Sussex staff, however, who still believed in the incremental approach, had felt that department A's plans were overambitious in terms of the amount of information to be stored and the projected timescale. Finally, the department also picked up a large number of practical points which were incorporated in their system - codings for the case review system from the National Institute (5.4.1), a method of case referencing from Bradford, and so on.

In department B no visits to other authorities were made by social services project staff, although the director had made a small number of visits. The chief company consultant also had a knowledge of events in authorities where his company had been involved. The department's project staff paid attention to journal articles and some lessons were gleaned from these. Commitment by all levels of staff was seen as very important, as was an on-line system rather than the batch approach, education and consultation of fieldwork staff, and the system being of practical benefit to fieldwork staff.

(b) Relation to conventional wisdom

In (a) above I described the lessons learnt from other authorities. However such lessons were only one of many factors determining the nature of the developments in departments A and B. For example, the fact that computer staff were only available for a limited period was also crucial in department A's decision not to opt for an incremental approach. Table 5.5.3 indicates to what extent departments A and B employed conventional wisdom (3.4) in their projects, regardless of whether they did so as a matter of policy or whether their actions were dictated by events or even happened by default. The table also

refers to those sections of this thesis where each of the points raised in the table is discussed in more detail. It should be remembered that despite the differences in approach indicated in the table, both departments have succeeded in developing and implementing their systems, and in gaining the cooperation of social workers, albeit reluctantly in some cases.

5.5.4 Questions of Expertise

Few social services staff have much knowledge of computing, and few computer staff of social services. This lack of relevant expertise led to problems in both projects, although (5.2.1) secondment of computer staff to the social services department rendered such problems less than had occurred in some other departments (3.4.3j,k). It is of interest to note (especially in connection with (a) and (b) below) that there was no converse secondment of social services research staff to a computer department, although one or two staff did go on short company introductory courses designed primarily for managers from industry. In department B these problems of expertise were exacerbated because the computer experts were also company representatives.

(a) Technical expertise and design of the system

Inadequate knowledge of how social services staff work, and previous experience being restricted to financial and numerical computer applications, can lead computer staff to put forward proposals which are not as appropriate to the needs of a social services department as could be the case. Similarly, as indicated in 3.4.2a, a lack of knowledge of what computers can do can allow social services staff to accept such proposals without realising that alternatives are possible. In department A the emphasis on coding (5.1.3e), the appearance of some of the forms as computer input forms rather than input and reference documents (5.1.4a-c), and the lack of clarity of certain of the computer reports (5.1.6) are in my view all to some extent examples of this. The system devised in department B, however, and unusually for early systems, largely avoided these particular drawbacks, although even here some social workers still complained that the appearance of the computer output was too technical and difficult to understand.

This difference between the two departments is due to two facts:

Firstly, that the computer expert (the company consultant) had spent some 6-9 months (figure 5.2) of acclimatisation in department B, including considerable periods assisting social workers and administrative staff in their day-to-day work, before design of the system even began (in department A there was no such period - and only one month was spent in drawing up the feasibility study); and secondly that he had a greater knowledge and experience of the capabilities of computers - especially in terms of on-line systems - than did the computer expert in department A. The greater degree of consultation (5.4.2) in department B was also a relevant factor, although not a crucial one: if the computer expert had put forward a system heavily reliant on coding it is unlikely that the social services staff would have at that time been sufficiently aware of the alternatives to be able to envisage and argue the case for a major change in design. As one member of senior management in department B told me: "We were like babes in the wood at the outset". Similarly, the director told me that there had often been problems of "computer language" at meetings, especially early ones, and he had had to remind computer staff to talk in "layman's language".

(b) Technical expertise and company interests

As indicated earlier (5.5.2a,5.5.4a) there is no question but that department B benefitted significantly in a number of ways from the degree of involvement of the company. Indeed without this it is very doubtful that the department would have gone ahead at all. However, the relationship also brought unfortunate consequences for the design of the system. Not only were the company keen to make the department's system something that they and the department could be proud of (5.5.2a), but it was also in their interests to ensure that the system would entail the use of as much company hardware and software as could make a contribution to it. If the project succeeded then other departments would be likely to purchase similar equipment and programs. As a result certain decisions were made which would perhaps not have been had there been an independent technical feasibility study or had a member of the social services department been expert in computing. These pressures were not present in department A because of the lack of company involvement in design and development (5.5.2a).

To describe one such major problem in department B it is necessary

first to explain that complex computer programs are frequently written not completely from scratch but using a 'database management package' which does much of the handling of information within the computer. There are similarities with building a model from a Meccano kit rather than from sheet metal - the task is made much easier, but the convenience of the kit entails corresponding restrictions in what can be built. Often a local authority computer section will buy or hire one such package from a computer company, and use it as a basis from which to write programs for several different departments. The particular package used by department B had a number of drawbacks: it was unsuitable for systems which the computer section was planning for other departments (and hence social services had to pay its full cost); it led to the nightly updating of the social services computer files taking about four hours, with a consequent occasional backlog; and there were technical features making future development of the system more difficult than need have been the case. From the interviews I had with computer staff in department B it seems unlikely that an independent technical feasibility study would have recommended its use.

A second problem related to confidentiality. Because of the strong feelings expressed by social work staff at all levels the company consultant recommended the department to purchase its own printer to be sited in social services headquarters rather than using the computer section printer where computer staff would have handled social services material. Use of the computer section for the printing of confidential material is normal local authority practice endorsed by the Home Office, and operating staff have to sign secrecy declarations. The separate printer brought problems for the department: a high rental cost, and the need for constant supervision. Such problems - especially the operational ones - became so burdensome that it was decided early on to abandon the printer and to use the computer section in future after all. Lack of familiarity with computers had thus meant that management, in order to safeguard itself and its clients, were prepared to go further to protect confidentiality than would be seen to be necessary once they were more au fait. One senior member of staff (quoted also at the end of 5.1.8d) was rather cynical about the company's role in this and other episodes: "The people telling us about it were the salesmen too."

(c) Technical expertise and management of the system

A certain degree of technical expertise is necessary, once the system is implemented, in managing its use. Advice may be called for by district staff as to how a particularly complex case should be entered on the computer - who should be entered as the principal client? or should it be entered as two or more separate cases? Requests may be made by districts or senior management for changes to formats of printouts or for new types of printouts, or for changes to the way the system works. More generally, the system is likely to bring opportunities which are hard to foresee during the difficult periods of implementation, but which can be developed gradually once the basic system is operating satisfactorily in districts. In such cases only a person with some knowledge of computers in general and of this system in particular is likely to be able to grasp the technical implications and discern what is or is not technically possible at what effort.

In department A the original intention to hand over control of the system from the development staff to the administration section once implementation was complete was seen to be unrealistic because of such requirements (5.3.1). The development staff, who had built up a considerable expertise, were seen to be vital to the future of the system, and at the time of my fieldwork in the department there was discussion of the possibility of establishing a permanent senior post for such a member of staff. In department B the incremental approach to project development meant that it had been envisaged that one or two project staff would build up the requisite knowledge and have a continuing role in computer operation and development. Similarly the indefinite commitment of a programmer from the computer section meant that he was able to build up a helpful knowledge of social services.

5.5.5 Technical Weaknesses and Problems

The areas which caused most difficulties for districts in the two departments were different, involving document design in department A and hardware problems in department B.

(a) Problems in Department A

The main problems experienced by fieldwork staff (chapter 6), and in particular by social workers, related to the design of forms (5.1.4) and printouts (5.1.6), the emphasis on coding (5.1.3e), and, because of these factors, the system being insufficiently self-explanatory.

There were many complaints about the computer being off (or 'down') from time to time (downtime averaged 5% of the working day), but hardware problems were far less than those in department B and probably no worse than could be expected with any new system. Some problems - relatively minor but nonetheless irritating to the (mainly district administrative) staff involved - were connected with the operation of the VDUs (5.1.5), but most of these would have been hard to avoid.

There were also design points, mainly relatively minor, which caused problems. The most serious of these was the inability of the computer to store certain historical information: it could only store up to the last six placements of a person in care (71-76 in table 5.1.3), and could not store previous home addresses, details of previous reviews, or names of social workers previously allocated to the case. Secondly, since the computer (and correspondingly the forms) had no space to record a person's title (Mr, Ms, etc), staff would occasionally enter this before the surname in the space reserved for the surname. As a result the name would appear out of order on the VDU and the back-up client index. A third irritation, when using the VDU to look up whether a person was known, was that the information displayed did not include whether the case was active or closed, and further screens had to be called up to ascertain this. This was annoying for users since they needed this fact very frequently.

(b) Problems in Department B

There were very serious hardware problems in department B, concerning the installation of the GPO lines linking the district VDUs to the central computer, although whether the fault lay with the GPO or the company consultants who had specified the type of lines was unclear. This resulted in serious delays and endless frustration in district B1 shortly after implementation and district B2 during implementation (these two districts shared the same line), and a delay of almost six months before implementation could take place in districts B6 and B7 (which also shared a common line). The VDUs were

installed in districts B6 and B7 at the time implementation had been planned, and so had to stand idle, earning the name "Dead Eye Dick" in district B6. Social workers' feelings towards computerisation were not helped by this or by the knowledge that VDU rental charges were being clocked up meantime.

A second, lesser, problem was that this system was the authority's first on-line one, and the computer section was not yet fully geared up to the changes that on-line systems entail. Firstly, the hardware must be reliable, since every time the computer is down all VDUs linked to it are also put out of use. With a batch system users are not directly linked to it, and if it is down for a few hours it is likely that they will still get their printouts back the next morning without even knowing that it has been off. Secondly, 'recovery' should be quick - that is, when the computer does go down it should be possible to restore it, and the files used by the on-line systems which it supports, very quickly. Thirdly, the computer operators should be fully aware of the need to keep the computer up continuously during the day, even if it might be more convenient for their purposes to turn it off occasionally. With a batch system there is no reason why it should not be turned off at the operator's convenience, but again an on-line system requires a quite different discipline. In department B all three of these difficulties were present in the early days of the system.

Several problems related to the fact that the system relied on over-night updating rather than being fully on-line. In other words, when information was typed into a VDU it was temporarily stored on a computer tape instead of being added immediately to the computer file of client records. Then, overnight, this tape was run through a special updating program which added it to the files so that they would be up to date the following morning. A fully on-line system would have resolved the consequent problem (5.1.7c) of only certain change-types being possible on the one day; it would have allowed VDU typing errors to be corrected immediately - again these had to wait until the next morning even if the user realised that he or she had made a mistake; and it would have avoided the occasional problem of a whole day's input being lost due to operational or other problems in the computer section.

Finally, although the overall conception of the system (5.1.2) was

most certainly a good one, there were a number of relatively minor systems analysis and programming deficiencies which caused many frustrations to users. Once implementation was well underway these began to show up and the programmers set about rectifying them; but since alterations to the design of an existing system - in particular when it is operational - are not always easy this took many months. Only some of the worse examples will be given here. Firstly, a computer system involving use of VDUs - and indeed any computer system - should include programs which 'validate' all input information. It should check that codes typed in are allowable: for example that where a date (such as 20.6.78) is required only numeric characters are typed in, that the first two are less than 32, and so on. This was done in department A, but department B's system provided little validation: for example category codes (item 34 in table 5.1.3) and social workers codes (items 51,52) were not validated. As a result, if a clerk mistakenly typed in AJV as a social worker code instead of AJB and if this was not noticed and corrected, then at the end of the month a caseload list would arrive for AJV with this one case on it, and it would not be included in the list for AJB. Similarly, referral agent (item 33) started to include DOCT, G.P., DR, DR., etc. as well as the GP which had been intended, making a nonsense of the monthly analysis of referrals. A second problem was that of not being able to make more than one type of change on the same day (5.1.7c). Although (as explained above) this problem would not have arisen at all with a fully on-line system, it could have been avoided even with overnight updating and indeed this was done later when the cries of anguish made its necessity apparent.

It is not clear why these programming deficiencies arose, especially given the involvement of expert company consultants. The lack of validation, for example, is highly un-professional. As described elsewhere the earlier stages of the conception and basic design of the system and its forms and printouts were well done and such as to make it useful to social workers and to require a minimum of form-completion from them. The only explanation I received - independently from two members of the department who had been closely involved in all stages of the project - put it down to commercial pressures:

"They come in with all sorts of brilliant ideas, then they get

pulled out to put the sales presssure on another local authority, leaving you in a half-cock state."

"The business pressure is stronger than the pressure to do the job properly."

5.5.6 The Cost of the Computer

In neither department was I able to ascertain the development or running costs of the computer system. This was partly because different elements of the cost were charged to different budgets, often involving internal notional payments between different departments of the authority, and partly because some of the costs were difficult to quantify. Such an investigation is notoriously difficult (Derbyshire, 1975) and it was not one of my particular interests in the research. In both authorities the hire of the VDUs was charged directly to the social services budget and was of the order of £15,000-£20,000 in 1976-77. Other important costs were salaries of computer staff and payments towards the costs of the computer and other hardware. It would seem likely that the overall annual running costs incurred directly as a result of each system were of the order of £50,000, but much of this was not charged to the social services budget. In department B, development costs were minimised because of the nature of the support provided by the computer company (5.5.2a).

In common with most other social services departments planning a computerised client information system (3.2), neither department conducted a detailed analysis of the costs and benefits of the alternatives of an enhanced manual system versus computerisation (5.5.2). One director said that it would have been impossible to quantify the benefits, and computerisation was seen as an efficiency exercise to improve management and planning at all levels and so to provide a better service for clients. Both departments also stated that had they not introduced the computer they would have had to develop an improved manual system which would have itself entailed additional costs for more clerical staff in district offices and at headquarters.

CHAPTER 6 THE RECEPTION OF THE COMPUTER SYSTEM BY SOCIAL WORKERS

INTRODUCTION

This chapter discusses the reception of the computer system amongst social workers at various levels - as members of departments, as members of district offices, and as individuals. Recall from 1.3.1 that "reception" refers to attitudes towards and uses made of the computer and also, as far as can be ascertained, to effects of the computer (eg the changing meaning of a 'review' - 6.1.7f). The reception of the computer is a complex process involving attitudes, district organisation, and the nature of the computer system itself.

Section 6.1 describes the reception amongst social workers as a whole and as members of departments. Some aspects of the reception were similar in both departments, whilst others varied considerably. The most important factor in such variations is shown to be the nature of the computer system itself. Reception of the computer amongst social workers as members of districts (6.2) is considered in terms of district structure using the organic/mechanistic distinction discussed in 1.5. This, however, is not enough fully to explain the variation between districts, and it is shown that in some districts other, local, factors (such as the innovative role of the admin section in district B3) were of great importance. In the case of individuals (6.3) the main intention is to see how far the reception varied according to individual characteristics such as age and those derived from the theoretical concepts such as "cosmopolitan" described in 1.4.

The chapter draws heavily on previous sections of the thesis - the individual and organisational concepts in chapter 1; the description of the departments, the districts and the social workers in chapter 4; and the description of the computer systems in chapter 5; and it is assumed that the reader is familiar with the contents of those chapters. In addition much new material is introduced - primarily from the taped interviews with social workers but also, wherever possible, from observation and other sources. For reasons of space and time it has been necessary to greatly limit the contents of this chapter. It would be impossible, for example, to describe the impact in every district office of every aspect of the computer system. However, the material that is presented is considered in some detail,

with as many pieces of evidence as possible in support of each conclusion drawn (see methodology appendix - A3.1.3).

It may be of interest at this point (although it is not necessary) for readers to refer to appendices 7 and 8. These appendices are two papers containing very detailed recommendations which I drew up and sent to the two departments following my visits. The recommendations were intended to be practical measures which could be taken to improve the design and functioning of the systems. They deal wholly with the practical issues of design and implementation and provide many examples of their effect on the use made of the system.

6.1 THE RECEPTION BY SOCIAL WORKERS AS MEMBERS OF DEPARTMENTS

Description of table 6.1

Table 6.1, which provides the main statistical data for sections 6.1 and 6.2 below, is based on the computer attitude variables derived from the taped interviews with social workers concerning their uses of and attitudes to the computer. In order to present the material in relatively compact form the computer attitude variables, which are all ordinal, have been dichotomised. For this process (unless the variable was already dichotomous) adjacent categories were combined from each extreme toward the centre so that the two final categories were as equal in size as possible. In cases where this appeared to distort the data the full table is given at the appropriate point in the text (eg table 6.1.3g). For further reference appendix 5 gives the full crosstabulations between all these variables and the department variable PPLA. Dichotomising was also necessary to allow chi-2 tests of these variables against particular districts (compared to all other districts). Had this not been done, expected values would have been less than five in some entries of the crosstabulation.

In the table the third column (ie that headed "values taken for the table") specifies the lower of the two values taken by each dichotomised variable. The subsequent columns appear in four groups. First, the proportions of all social workers taking the specified value of each variable are listed. Secondly, the proportions are given for social workers in each department. A Kendalls tau test of the correlation between each computer attitude variable (ordinal, before dichotomising) and the local authority variable PPLA was conducted and the significances are shown in these columns where .10 or better. Correlations significant at less than the .05 level, however, will not be considered in the text except where there is further evidence pointing in the same direction.

In the third group of data columns the proportions are shown for social workers in each district. It was thought helpful to indicate in some way those districts where the proportions of social workers taking the specified value of the attitude variable differed markedly from all other districts. However, in quite a number of cases this could not be done by a chi-2 test since the number of respondents to the relevant question in the particular district was less than 10. In

the table the numbers of respondents, where less than 10, is shown in brackets below the relevant proportion figure. Some of the main reasons for these missing values are given in the methodology appendix (A3.2.5a). In order to show up those districts which differed markedly from others in the proportions of staff who took the specified value of an attitude variable, the proportion for each district has been marked with "*" if it differed from the proportion for all social workers by more than .25. The figure of .25 was chosen by inspection as it (on average) picked out about two extreme districts per variable (sometimes more, sometimes less). For each of these districts, and provided the number of respondents was 10 or more, a chi-2 test was then conducted between it and all other districts combined (the Yates corrected test for 2x2 tables was applied using the SPSS computer package). The significances are shown in the table for all such correlations, and vary from .00 to .11. In order to ensure that no correlations significant at the .05 level had been missed similar tests were also carried out for other districts where the difference was rather less than .25. However in all such cases the significances were worse than .10.

The final group of data columns shows the proportion of social workers taking the specified values in districts classified (4.3.5, table 4.3a, and appendix 9) as organic, mixed and mechanistic. Some care should be taken over the interpretation of these figures in the case of the two "mixed" districts, A4 and B3. In the case of district B3 two features of its organisation were strikingly different from other districts, and probably had much greater impact on its use of the computer than did its organic/mechanistic nature. Firstly, there was the very "advanced" nature of district administration (4.3.5) and secondly was the fact that in this district alone the VDU was almost totally absent (even visually) from social workers' experience of the computer system (4.3.3). Certain features made district A4 difficult to classify on the organic/mechanistic continuum (A9.5), although overall the intermediate position appeared most appropriate.

6.1.1 Overall Reception of the Computer in the two departments

Table 6.1 reveals a clear picture: in almost every respect social workers in department A were less favourable to the computer than were those in department B. Taking only those variables where the

difference was significant, or almost so, at the 5% level or better: On a practical level staff in department A found the caseload lists (CA06) less useful and the review forms (CA12) less useful as reference documents; they were more worried (CA22) about the security of information stored on the computer and (CA16) about the possibility that their rights might be infringed by superiors having greater access to information. In more general terms they were more inclined (CA26) to see the computer as inappropriate in social work and (CA14) to prefer their previous manual system to the new computer system.

One area in which computerisation did emerge more favourably in social workers' minds in department A was the education and implementation process. Although the differences were not statistically significant at the 5% level variables CA11, CA19, CA20, and CA21 all pointed in the same direction, with social workers being rather less cynical about the reasons for introducing the computer, more satisfied with the training provided and the consultation on form-design, and having better access to computer procedure guides. A second area of difference was that in department A significantly more social workers said (CA10) they did their own code-completion and rather more (CA07) said they used the VDU themself.

Differences between the two departments in the reception of the computer could depend on a number of factors. Possible explanations include: differences between departments in the characteristics of the social workers (department B had a marginally more cosmopolitan and professionally-oriented staff - 4.2.1); differences in the structure of district offices (districts in department B had more autonomy - 4.1.2); differences in the process of education and implementation (this was particularly intensive in districts A1 and A2, whilst in department B it was much more left to districts themselves - 5.4.3); or differences in the designs of the two systems (5.1). The evidence presented in 6.1.2-6.1.7 below points clearly to this last factor, the nature of the system, as being of greatest importance in determining attitudes to and uses of it. Each section describes the reception of one aspect of the system, and seeks to explain variations between departments.

6.1.2 The Caseload Lists and the Two Departments

(a) Introduction and overall perspective (from table 6.1)

Of the computer-printed reports the most important as far as social workers and seniors were concerned were the monthly lists of all the cases held by each social worker (5.1.6b). In both departments each district received two copies of each social worker's list, one for the social worker and one for the senior (although in district A4 the district officer retained one copy whilst the other was shared between social worker and senior). The aspects of the caseload lists which are looked at in this section are, primarily, the uses made of them by social workers and seniors and, to a lesser extent, the accuracy and methods of correction of the lists.

The relevant variables in table 6.1 are CA04, CA05 and CA06. Variables CA05 and CA06 refer to all computer reports, not just the caseload lists. However, I have assumed that, since the caseload lists were the main computer reports used by district staff and the main ones under discussion in the interviews, the results for these variables can be taken as referring to the caseload lists.

According to social workers the caseload lists were both more used (CA04) and noticeably more useful (CA06) in department B than department A. 35% of staff in department A, as against 48% in department B, said they used the list for caseload management rather than using their previous manual system; and 44% in department A thought the lists in general useful as against 68% in department B. There was no marked difference between departments in opinions on accuracy (CA05), although this masked clear differences between districts (6.2).

(b) Uses of caseload lists by social workers

The caseload list in department A contained more information about each client than did that in department B (5.1.6b). In particular, it incorporated a reminder system for reviews (this was done by a separate report in department B) which included the use of asterisks to denote overdue reviews. Although there were ways of "getting round" this system (6.1.7f), few social workers would be happy about having too many asterisks on reports which would certainly be seen by their senior, would sometimes be seen by their district officer, and which on occasions were even seen by senior headquarters staff. In

department B, on the other hand, senior staff could not tell, purely from the report itself, whether the social worker had paid any attention whatsoever to it. Thus the incentives for social workers to use the caseload list, which in department B were largely of the "carrot" variety (ie that it could help them in caseload management) were in department A both a bigger carrot (more information about each client) and also a fairly stout stick. It would therefore be reasonable to expect that staff in department A would in general have become more familiar with the caseload lists than those in department B and would have begun to use them for a wider range of caseload management purposes. In fact the opposite was the case, as is shown by variable CA04 (table 6.1). This is confirmed in table 6.1.2a which suggests that, although the lists were indeed used for reviews in department A, more staff in department B used them for other aspects of caseload management.

From observation there was little doubt that the main reason for the better usage in department B was the difference in the size, layout, and general appearance of the two lists (5.1.6b). Department B's report fitted onto one or two A4-sized sheets and was therefore quite usable as a list to put in files, annotate, and be able to look at to get an overall picture; whereas this was not really possible with a printout of the size of that in department A. Few social workers in department A identified this in so many words as the reason why they stuck to their previous (largely individual) manual systems (although some did: one social worker's handwritten list was "only one piece of paper, instead of 10 folds"; whilst another retained his handwritten list because to use the computer list "you have the whole desk sort of covered with the sheet out"). Presumably this was because, not being knowledgeable about computers, and having come to see computer printouts as being large folded bundles, many had not envisaged that a computer list could appear concisely on an A4 sheet (c.f. 3.4.2a concerning lay people's lack of expertise). Further confirmation that the bulkiness of the report was to blame comes from the reasons (table 6.1.2b) given by those social workers who did use the list as to what advantages it had over their previous manual system. Whilst both lists were used by some staff for the improved quality of information, an even greater attraction in department B was the saving in paperwork. Even if this was rarely seen as a major benefit it was

nonetheless a clear plus for the computer and helps to explain (variable CA06) why the reports were seen as more useful in department B than department A. One social worker in department B who used to keep a handwritten list said that the computer list "is easier - it's all written down for me, you know, and there's not the constant crossing out and changing and so on". Another, who previously used a personal card index, said "It occurred to me a few weeks ago that ... all the information is on the computer printout anyway, and might as well be used."

(c) Use of the caseload list by seniors for supervisions

Supervisions were seen by most social workers as an extremely important activity (variable SV41 in appendix 5), and therefore anything which could improve their functioning was likely to be appreciated. It was in this area that caseload lists had taken the greatest hold and were most valued, by both social workers and seniors. Although (CA04 in table 6.1) only some 40% of social workers said they used the lists themselves, over 60% reported that their senior used them in supervisions. All but one of the seniors interviewed in department B indicated that they already used the list for this purpose or were just changing to it, as against six of the nine interviewed in department A.

The reasons why seniors had changed to the computer list were the same as in (b) above - that it saved them keeping their own list and that it offered a better standard of information. One senior in department B who previously had not kept a list at all, said that now

> "Unless I feel that there is some social work task needed, the social worker must close that case; Also I make notes against the names of the cases to remind me how far the social worker has progressed with the case, and to give me an idea of what his immediate workload is and what his outstanding workload is".

The bulkiness of the lists was again a deterrent in department A, but rather less so than it was to the social workers. The additional information supplied about each case on the report was of interest to the senior, who could not know the details of individual cases as well as the social worker did. The few seniors in department A who had not changed to the computer report had previously developed their own systems of typed or handwritten lists and felt these to be

satisfactory. It seems reasonable to assume that had the computer reports been in a form similar in appearance and size to such manual lists, as they were in department B, then these seniors too would have started using them, as had happened in department B.

There was remarkable unanimity amongst social workers as to the improvement in supervisions resulting from the use of the caseload lists by seniors. Twenty-one said that supervisions were now better, four that they were roughly the same, and none that they were worse (this question was not asked in some early districts, and was only asked of social workers who said that their senior did use the list). The main reason given for the improvement was that the senior now had a better idea of caseloads and could be more systematic in his or her approach. This was often expressed in terms which implied a recognition that better control by the senior would be beneficial: "It keeps you on your toes", "It gives the senior a check on you". Such sentiments came from both qualified and unqualified staff. One unqualified social worker reported how previously, when a case was behind schedule, she would sometimes not bring the file to her supervision. Since her senior did not keep a list of all her cases she had therefore been able to avoid discussing such cases. Following the introduction of the computer the senior now went through the printout with her before turning to particular problem cases. Although she now sometimes felt "threatened" as a result, she found it helpful and more "honest" for the senior to have this information. A qualified worker found that supervisions had improved because the senior now had "a ready check ... he can look down and say 'I know this family quite well, but you haven't spoken about this one for a long time, although it is a category such and such'". Such results echo those of Beswick (1.4.2a(vi)) who found that many social workers favoured "stricter rules".

The use of the caseload lists in supervisions was one of the clearest examples of where the computer was beginning to make a significant impact on the everyday work of district offices. In many cases social workers and seniors were coming to see supervisions as occasions when (in addition to the traditional "professional" discussion of problem cases) much more time should be spent on what had previously been seen as the more "administrative" questions of caseload management (1.5.3).

(d) Correcting and amending the caseload list

Table 6.1.2c shows how social workers said they went about getting mistakes on the caseload lists corrected. There were quite different patterns in the two departments. Only 7% of all replies in department A entailed using the appropriate form, as against 38% in department B. In general staff in department A were less certain how to proceed, though there was very considerable variation between districts (6.2).

The difference between departments appeared largely to reflect the nature of the system. In neither department was training in the use of the computer system adequate (5.4.3, 5.4.4), although it was good in districts A1 and A2; but the greater simplicity and self-explanatoriness of the system in department B as regards amending information on the computer (5.1.2b,5.1.4c) meant that less training went further there. One social worker had clearly got the knack: "Adjust the sheet in the front of the file (the CIS - 5.1.2b); have my senior authorise the change; take the top copy down to admin; keep the bottom copy in the file; admin ... get the revised printout for me". In addition (5.1.7d) there was in department B a definite occasion - the arrival of the CIS - on which social workers had the opportunity to check for and to correct input errors. In department A it was not always clear to the social worker either which form to use, or how to complete it. A district officer said that some staff were using the review/movement form (A3 in 5.1.4) when they should have used the general amendment form (A4) and vice versa. Indeed, the review form included a box labelled "amendment", and the amendment form a box labelled "review/movement". These complexities were acknowledged by department A in setting up the "Forms Working Party" (5.3.1).

A further factor was the greater support available to social workers in department B from their district administration staff (4.1.2c).

(e) Unanticipated innovative uses of the caseload list system

Not only did admin staff in department B have more time to assist and to remind social workers, but the fact of having two senior admin staff in each district (instead of one as in department A), together with the greater autonomy granted to them by headquarters, meant that the admin in general were able to give more thought to the task of fitting computer procedures into the existing district structure. One

example was the development in districts in department B of certain innovative uses of the computer list system usually at the instigation, or with the active involvement, of admin staff, and without consultation (at least initially) with headquarters staff. Although not all of these could have developed in department A since the design of its system was less open to unanticipated uses (5.1.3f), no such examples at all were found in that department during my time there.

In district B1 it was decided to enter a special code "**" after the surname to indicate cases involving non-accidental injury, whilst in B2 codes from "(A)" to "(D)" were entered after surnames of certain clients for an internal administrative purpose which I was asked not to identify. These codes were treated by the computer as part of the surname, and so appeared whenever it was printed - on caseload lists, for example. However, since the computer regarded such codes merely as part of the surname this did not allow these districts on their own initiative to use the codes to obtain special lists of these categories of clients. (This was in fact later made possible by some special programming at headquarters). A more adventurous innovation was introduced in district B3, and this is described in 6.2.5c below.

6.1.3 The VDU, the Client Index, and the two Departments

(a) Introduction and overall perspective (from table 6.1)

The attitude to and use made of the VDU by social workers is of particular interest since (for district staff) the VDU was in a sense a visible symbol of the whole computer project. It was the only associated piece of technology seen by the social workers - many of whom in fact referred to it as "the computer". It is hardly surprising that initially the VDU was frightening to some staff when the highest existing technology in their office was an outdated photocopying machine. Yet by the time of my visit, although some staff remained wary of the machine and only about 25% had used it more than once or twice, most social workers had accepted its presence and developed a down-to-earth and usually fairly realistic view of its pros and cons.

The VDU had three main purposes in district offices: a means of input to the computer, an index of clients known to the department, and (especially in department A, where more information was held about

each client) a source of more detailed information on individual clients. This section will concentrate largely on the second of these. It will also consider the computer-printed client index (5.1.6a), whose purpose (at least initially) was to provide a back-up when the VDU was down.

Table 6.1 shows little difference between the two departments concerning social workers' attitudes to the VDU and client index. About 60% of staff in both departments (variable CA07) said they did not use the VDU at all (but among the remaining social workers it was much more used in department A - see 6.1.3d below). A similar percentage felt (CA08) that VDU interrogation was a job mainly or only for admin staff. Finally (CA09), in both departments just over 40% of social workers had a definite preference for the VDU and/or client index over the previous card index for finding out whether a caller was known to the department (just over 20% had no preference). For all three variables these average figures masked very considerable differences between districts (table 6.1).

(b) Comparison of VDU/client index with previous card index

As mentioned immediately above, there was little difference between departments in social worker preference for the VDU/client index as compared to the card index. However in district B3 where only the client index (never the VDU) was used there was a marked preference (6.2.5d) for the new method. When social workers were asked to state the advantages and problems of the card index and of the VDU/client index for looking up whether an individual was known, three main categories emerged: availability/speed of use, comprehensibility/ease of use, and completeness/accuracy of the information. There was a very clear overall impression (table 6.1.3a) that the computer procedure provided more complete and accurate information, but that it was slower and less easy to use than the card index. There were again no marked differences between the two departments on these points. Admin staff made similar comments. One senior district clerk said:

> "Statistics are now much better, without doubt, but it is much slower. This is very bad for the receptionist, especially if the client is angry or distressed."

During fieldwork in department B I made various observations, described in (b)(i)-(iv) below, which firmly substantiated these

opinions of district staff. There is no reason to suppose that such confirmation would not also have been found in department A had similar observations been made there, although the improvement in information quality might have been rather less (eg 6.1.2d,6.1.4c(i)).

(b)(i) Completeness of information stored by computer and by cards

In order to ascertain whether the computer had fulfilled its promise of providing more complete information than did the card index I selected at random 40 cards from the card index of each district in department B; and also (on the headquarters VDU) 40 computerised cases from each district. For each case I noted whether the following had been entered: a case category (in words on the card, in code on the computer), the client's date of birth (both cards and computer forms included a space for this) and the name of the client's GP (neither cards nor computer forms included a space specifically for this, but it could be entered on both - on the computer in the "other agencies" section (5.1.3f)). The results are shown in table 6.1.3b.

All three columns show a definite improvement in completion rates. I have no information as to the accuracy of the information entered, although social worker comments again suggested improved accuracy. A further insight on the impact of the computer on what information was stored comes from looking at the nature of the "other comments" entered on cards and on the computer. As explained in 5.1.3f the computer forms had a space marked "other agencies" in which lengthy textual (rather than coded or abbreviated) information could be entered and then transferred to computer storage. Although intended for details of agencies involved with the client, any comments could in fact be entered, and some social workers (especially in the innovative district B3 - see final column in table 6.1.3c) had started doing just this. The cards, on the other hand, did not have a space specifically for "other agencies", but "other information" could of course be written on the card wherever there was available space.

Table 6.1.3c lists the number of items (other than name and address of GP, which is covered in table 6.1.3b) entered as "other information" on the cards or under "other agencies" on the computer. The sample of cases in the table are the same as those used in table 6.1.3b. In the table the items are categorised according to whether they referred to an agency (school, health visitor, home help, etc.) or to some other matter.

It can be seen that overall there had again been an increase in the proportion of cases where information was stored. However this hides the fact that the proportion of cases where information about an "other agency" was recorded had risen from 3% to 33% whilst the proportion where "other information" concerned a matter other than an agency had fallen from 32% to 10%. Whilst some of the comments that were thus lost were now redundant (e.g. "case transferred to X district" was now unnecessary as the computer index covered all districts), many others were not. Some examples were: "wife's maiden name is ...", "brother is client of X", "mother going to hospital", "owns savage dog". Whilst it could be argued that some of these comments properly belong in the casefile anyway, a number of social workers did find the loss a significant one. For example one senior said: "By its very nature more notes could be written on a card, which could very quickly lead you in the right direction."

Finally, in discussing with the district officer in district B3 the improved quality of information stored it was suggested to me that the improvement could be a gradual one over recent years rather than being due to the introduction of the computer system. To test this I looked at 80 randomly selected cards, splitting them into those last updated in 1974/75 and those last updated in 1976/1977. These two groups were then compared in respect of the categories chosen for table 6.1.3b, with the 40 previously selected cases entered on the computer (in 1977). The results are shown in table 6.1.3d, from which it is clear that whilst there had been an overall improvement in previous years, the improvement on introduction of the computer had been very much greater.

Part of the reason for the improvement was certainly the nature of the system. Once an entry is made on a card it remains there without coming to the attention of anyone else except another user of the cards. An entry made on a computer form, however, automatically comes back to the social worker (in department B) on the Client Information Sheet (which was also often scrutinised by a member of admin) and, depending on what it is, may also appear on the monthly caseload printout and on other printouts. In some districts admin staff who transferred information from forms to the computer were asked to contact the social worker if information such as date of birth was omitted. A computer form was therefore much more likely to be

completed fully than a card on which there was no type of check. There may have been other reasons for the improvement, such as the effect of the education and training exercises, or a feeling that information destined for a computer must be as good as possible, but such explanations would be based on supposition alone.

(b)(ii) Availability and speed of use of VDU/client index/card index

The quote near the start of (b) above from a senior district clerk indicated that slowness of access to information could be much more than just a minor irritation. A card index is always available and, when it is stored in several drawers, several people can use it at the same time. Neither of these points is true in the case of a VDU (5.1.5). During just over three hours which I spent in the common reception area of districts A3 and A4 the computer went down once and there were three occasions when someone came to use the VDU only to find that someone else was already using it.

Even when the VDU was available, however, it was usually considerably slower to use than the card index or the printed client index. Some of the reasons for this are explained in 5.1.5 and 5.1.5a. A speed comparison was conducted in three districts in department B. For this test I asked the receptionist to look up a number of names, and noted the number of seconds it took to locate the name on the VDU, the card index, and the client index. The names used were chosen to include both common and uncommon names and names which were and were not included in the particular index being looked up. In the case of names not included the time taken to ascertain this was noted. The results are shown in table 6.1.3e. Less names were looked up on the VDU than the client index or card index - this was because in one district the computer was down on both occasions when the test was attempted.

Overall the VDU came out considerably worse than either the client index or the card index. Two points should be noted. Firstly, the card indexes only contained details of district clients (sometimes, too, excluding those which had been transferred to the computer), whilst the computer and client index contained department-wide information. Secondly, if the same test had been done in department A the VDU would have emerged better than it did here since it was possible in department A to look up a client by surname and address, so avoiding the time-consuming process of waiting for further pages of

information to come up on the VDU screen (5.1.5) - for example, when trying to locate a particular "Smith".

Because of the "oversell" of the VDU during the education period (5.4.2) many social workers were genuinely surprised that it now took longer to get information. A senior in department A said: "One of the great selling arguments for the computer was that it was so much quicker. We found out quite quickly that that just was not so". A senior in department B concurred: "I've had a bit of disillusion with it ... you know, the fact that somebody could turn pages over quicker than the computer could produce information just amazes me!" (laughs).

(b)(iii) Comprehensibility and ease of use

Variable CA07 ((a) above) showed that direct use of the VDU by social workers was very limited. Unfortunately I did not ask if they had used the card index themselves regularly prior to the computer, but I got the impression that many had done so. Several mentioned that they now found it inconvenient to be reliant on admin staff (or, occasionally, on other social workers) to get information. For example:

> "The card index was a simpler method ... a social worker didn't have to rely on the admin ... to get a card out or to get a file out. Rather than wait till all the Meals on Wheels have gone through (been entered into the VDU), or Home Helps, you know, it can be half an hour."

In some districts the general layout and/or expectations within the office made it difficult for social workers to use the VDU, but even where it was deliberately made as easy as possible many chose not to do so, because they found it frightening, complicated, or time consuming. Three quotes illustrate these points. A senior (whose job remit included training) said: "The computer system seems very complicated, and therefore frightens people off a bit, like myself" (laughs). A social worker said that in her district the VDU had become known as "Very Difficult to Understand" whilst another, who was not lacking in confidence, preferred to use the client index or the card index because with the VDU "you need to do several operations to get different bits of information ... it's pressing buttons all the time to locate the various bits of information ... again, it comes down to the time."

(b)(iv) Conclusion

In general (5.5.1) social workers had been reasonably happy with the old card index system, and had not felt a need for change. Whilst many welcomed the improved accuracy and completeness of information on the computer, this was offset by the reduced accessibility of the information. Thus overall the proportions who preferred the card index and the computer approach were roughly equal ((a) above). In these respects there was little overall difference between departments. There were however other differences concerning the VDU, client index and card index, and two of these will now be considered.

(c) Use of the computer printed client index

Originally in both departments the client index was seen (5.1.6a) solely as a back-up for when the VDU was down. However in department B many social workers began to use it rather than the VDU as the initial reference in finding out whether an individual was known, who the allocated social worker was, and other such initial information. Social workers were asked how they would normally find out whether a caller was known to the department, and the results are shown in table 6.1.3f.

Whilst the difference between departments was in part caused by factors peculiar to some districts in department B (eg 6.2.5d), the nature of the system appeared also to be important. Firstly (5.1.6a) the client index supplied to each district in department A contained details only of individuals known to the particular district, whereas information on the VDU covered the whole department. Secondly, the index was up to a month out of date, and so it had to be supplemented by using the "referral book" (5.1.7a) to check on all callers during the last month. Thirdly, since the index contained six lines of information on each person it was much less easy to read than department B's where, with one line per person, one could very quickly run one's eye down the list of names. Fourthly ((b)(ii) above) it was quicker to locate a person on the VDU in department A than in department B (provided that both surname and address were known). Finally, owing to these factors, the index in districts in department A tended not to be used much and therefore not to be placed in a prominent position. In department B, on the other hand, the frequent use made of it by admin and social work staff usually meant that it

was kept in an easily accessible place, often beside the VDU, and this tended further to increase its use.

The frequent use made of the index in department B resulted in suggestions being made by districts for changes in its format and, whilst I was in the department, additional experimental versions were supplied to district B3 (ordered by surname then street name instead of by surname then forename) and to district B6 (containing clients of the district only). In department A the index was relatively little used and so the possibility of changes in format which might have made it more convenient as a first reference did not come to the fore.

I understand that in department B the client index later came to be officially recommended to districts as the initial reference source. In the long run, however, the client index could lose some of its advantages over the VDU. The number of names on the index will make it more and more bulky, and technical and operational improvements should both reduce the computer downtime problems and (as in department A) make it possible to look up individuals with common names by surname and street name rather than having to call up many pages with the same surname before locating the right person.

(d) Use of the VDU

Although variable CA07 shows ((a) above) that both departments were similar in the high proportion of social workers who said they never used the VDU, the dichotomising of the variable hides a big difference in frequency of use by the remaining staff. Table 6.1.3g shows the crosstabulation by department of the undichotomised variable (which has three values). In department B the majority of the 18 users had in fact only used the VDU once or twice, and in department A twice as many social workers used it "normally or occasionally" as did in department B. This was despite the fact that staff in department B were in general (6.1.1) more favourably inclined towards the computer.

This result again appeared to be related to the nature of the computer systems in the two departments. In department B the success of the various printed computer reports rendered the VDU less important as a source of information. Not only was their client index more useful ((c) above) for finding out when a person was known to the department, but the computer-printed CIS kept in all files (5.1.2b, 5.1.4c) meant that each social worker already had a full record of all

computer information held on each of his or her existing clients and so had no need to seek information from the VDU about them.

Table 6.1.3f supports this conclusion and puts into perspective the greater use of the VDU by department A's social workers. Although a higher proportion used the VDU to find out whether a caller was known to the department, none used the client index, and so overall the proportion who relied wholly or partially on admin staff to get the information for them was 79% as against 62% in department B.

6.1.4 Computer Forms, Coding and the two Departments

(a) Introduction and overall perspective (from table 6.1)

The introduction of a computer necessitates changes in forms and recording methods. Previous research concerning social workers' attitudes to paperwork has suggested (1.4.4) that social work records are inadequate, that social workers' motivations are not conducive to paperwork, and that social workers see extra paperwork as detrimental in that it reduces the time available for contact with clients.

There was a clear difference between the paperwork associated with the two computer systems studied. Department A's system (5.1.3e) was heavily dependent on social worker supplied numeric coded information, whereas department B had reduced coding to a minimum and, even then, used mnemonic codes in most cases. In department A (5.1.4) there were more computer forms and the referral and review forms were obviously computer-input documents, whereas in department B the equivalent forms were suitable for reference in casefiles and were hardly recognisable as computer-input documents. For reasons of space I will concentrate on the review forms (forms A3 and B3 in 5.1.4).

Reported usage of the review form (CA13 in table 6.1) was similar in the two departments, with roughly half the social workers using it (whether for completion or for reference) no more than a few times monthly. However 45% of staff in department B found it "very useful" for reference purposes (CA12) as against 13% in department A, and only 8% found it "not useful" in department B as against 33% in department A. Concerning form-completion, most social workers in both departments (but rather more in department B) felt (CA15) that no more time was involved than before. However in department A significantly more social workers said they did their own coding (CA10) than in department B - 87% as against 46%.

(b) Practical difficulties resulting from coding system and form design

Appendices 7 and 8 contain papers, submitted to the two departments shortly after my fieldwork there, describing in detail the various problems for social workers and, in particular, those which arose from the coding system and the design of the computer forms. The papers also offer practical suggestions for changes to the system, and mock-ups of revised referral and review forms. The present section briefly summarises the most important problems detailed in those appendices, with references to the appropriate sections thereof. The comments refer mainly to the review forms.

Department A (see appendix 7)

1. Great emphasis on numeric coding (2A), leading to:
   - lack of space for narrative information (2A,3B)
   - tendency to use 'catch-all' codes (2A,2B,5D)
   - codelists long, so hard to find ones place (2D,2E).
2. Ambiguities in interpreting some codes (2B). See also c(ii) below.
3. Relationship with old manual forms inadequately defined (3A,3D). Many staff unsure if and when the old forms should be used.
4. Forms designed more for computer-input and statistical information than for social worker use (3B,3C,4C,4D).
5. Confusing presentation and layout, leading to different interpretations of how to complete forms (5B,6E,6F,6S). More social workers interpreted TERMINATION incorrectly as "termination of a case" than correctly as "termination of a resource currently supplied to the client". ALLOCATED was sometimes interpreted as "resources allocated by this review" and at other times as "all resources currently allocated". Most seriously, the intended distinctions between the different uses of the form - movement, termination, review, amendment - were not clear from its design.
6. Uncertainty as to who should complete which parts of the form (5H).
7. Names and ages of children had to be entered on a separate form, not the referral form itself (4F).

Department B (see appendix 8)

1. Category code system inadequate:
   - only one category available per client (4c)
   - code tends not to be used by social workers (4a,4b)
   - code not validated by computer on input (8e,11b).
2. Cluttered appearance of review form (3a,3b,3c,5a), confusing punctuation, use of only one typeface.
3. Review form permits two alternative ways of making amendments (7) - not clear which to use.
4. Family members not listed in any order; no dates of birth (5).

Conclusions

The problems of form-design and coding in department B were relatively minor in comparison to those in department A. Here the system was not sufficiently self-explanatory, and it appeared that no degree of training could fully overcome this problem. In appendix 7 (section 5F) recommendations were made for revised referral and review forms, and a new procedure suggested. These were aimed to make the system more understable whilst retaining the basic philosophy of a coded system and whilst avoiding too large changes to the computer programs. For department B improved layouts for the forms were also suggested (appendix 8), but the changes were less significant, and no procedural changes concerning forms appeared necessary.

(c) Completion of mock case

In order to gain an alternative perspective on statements made in interviews, and also to prompt further comments on the computer system, all social workers were asked during their interview to complete a copy of their department's review form for a mock case which was described on a typed sheet. Details of the case, which is a simplified version of the illustrative case used in 5.1.4, are given in the methodology appendix (A3.3). For the present section the mock case is used to illustrate the quality of form-completion and the use of codes.

(c)(i) Comparison between forms

The quality of form-completion for the mock case is summarised in table 6.1.4a and the results provide confirmation of, and interesting insights into, the verbal comments made by social workers ((b) above). They show clearly the vital importance of form-design.

Firstly, the general results in the table indicate markedly inferior form-completion in department A. Compared with department B there were almost twice as many errors per form and almost twice as many respondents mentioned difficulties in completing the form. Although there were 7 sections in department B's form as against 4 in department A's the proportion of social workers completing the correct combination of sections (whether or not the sections themselves were correctly completed) was three times higher in department B.

Secondly, the results for specific entries on the form suggest, as did social worker comments, that these differences between departments were the result of form-design and were not caused by any lesser ability at form-completion by staff in department A. In both departments exactly the same high proportion of staff (92%) had completed the form in such a way that the date of the next case review would be entered correctly on the computer, whereas the cessation of the day nursery would have been entered in only 24% of cases in department A as against 84% in department B (of course, in practice checks by seniors and/or admin staff would have narrowed the difference). Concerning the review date, the relevant entry on both forms was simple to complete, did not require looking-up of codes, and was fairly self-explanatory even if one did not have a grasp of the structure of the form as a whole. However regarding the cessation of the day nursery, the correct entry on department A's form required a very clear understanding of the structure of the form - but the form was far from being self-explanatory. To indicate the day nursery cessation social workers had to enter either the name or the code number of the nursery both in the "Resources Terminated" entry of the TERMINATION DETAILS section and in the "Resources No Longer Required" entry of the REVIEW DETAILS section. In fact the mock case suggested that around 70% of staff incorrectly believed that TERMINATION meant termination of a case rather than of a resource. This was stated quite explicitly by many respondents when asked specifically about it: for example, "termination speaks for itself - you're closing a case; no further departmental involvement". On department B's computer-printed review form the social worker could indicate cessation of the day nursery merely by deleting the existing entry (which was in words, not in code) or, if preferred, by writing a suitable phrase beside or below the existing entry.

A final confirmation that bad form-completion was not primarily a function of social worker inability is provided by the entry concerning the category/problem code. Here the position with other entries was dramatically reversed. Only 5% of forms completed in department B (2 social workers out of 37) would have resulted in the existing code on the computer being amended, whereas 80% of forms in department A would have succeeded. Again this appeared to result from the design of the forms and of the whole system. In department A a social worker who decided to complete the REVIEW section of the form could not avoid encountering the "Problems" category box. Furthermore, anyone who had left it blank in the past would probably have been reprimanded by the admin clerk, as failure to complete this box led to rejection by the computer when details were typed in. In department B the relevant entry was buried inconspicuously in the REFERRAL/ALLOCATION section, which was unlikely to be carefully scrutinised at a review, or which could be incorrectly interpreted as referring only to the position at the time of allocation of the case. Apart from the form itself, the design of the system as a whole created a much greater "code consciousness" in department A's social workers. In other words virtually all the social work staff expected that they would need to enter and to interpret codes from time to time. This was not true in department B - this difference between the two departments will be further discussed in (d) below.

These results show clearly the vital importance of system-design and, in particular, form design. With good form design, less training is needed. With poor design even a massive training exercise may not succeed. This conclusion is of particular interest in the light of some of the early literature on social work computer applications which claimed (3.3.3, 3.4) that poor form-completion by social workers (occasionally even referred to as "sabotage") was a, or the, major difficulty in introducing computers into social services departments.

(c)(ii) Consistency of interpretation of codes

The mock case results also suggested that in any system relying on coding care must be taken in the interpretation of the resulting aggregated statistics or, indeed, of descriptions of individual cases based only on coded information. Table 6.1.4b shows the number of social workers from department A who chose particular codes while completing the mock case. For the MAJOR CHANGE AREA category four of

the five available codes were used and even the most popular code was used by less than half of the social workers who entered any code. Of the ten available codes for SOCIAL WORKER ACTIVITY, eight were used at least once, and six at least three times.

It can be argued that a mock case is unreal, and that greater consistency in use of codes would be obtained where real cases are concerned. This would be hard to test, but further evidence for lack of consistency comes from the reply to an open-ended question asking social workers what they did when completing forms if absolutely no code, from those available, was suitable. Table 6.1.4c shows that the number using a "catch-all" category such as "other" roughly matched the number who felt that a more specific code could still be used. Even individuals were not consistent: one social worker said "Sometimes I put OTHER and sometimes one of the other categories, because to me it doesn't seem that important how you categorise."

A second source of possible error was the requirement that certain codes must be completed, without which the computer would not accept the case data. Whilst this did ensure a high completion rate for such entries, it occasionally resulted in unreliable entries - for example when the social worker was rushed. One senior whom I observed completing a large pile of forms at exceptional speed said at one point: "A code has to be put on to get it on the computer - Well, let's say she's married". A social worker said of the category SOCIAL WORKER ACTIVITIES: "I always use code X" ("mobilising departmental services"). An input clerk whom I observed said that a change of address was only accepted by the computer if the date of the movement was specified: "so you may have to guess a date sometimes".

A third source of error was when particular districts invented special meanings for particular codes. For example, see 6.2.5e.

I have no evidence as to how serious was the problem of differing usages of codes, but both departments implicitly assumed a common interpretation of codes by social workers. Of course this is not a computer-specific problem, but it is important to remember that the presentation of statistics on a computer printout is no guarantee of consistency in their collection. Furthermore a computer system may enhance the problem since it is likely to require that certain codes must be completed, and it may increase the amount of information being coded and reduce the amount stored in words.

(d) Who performs the code completion?

As was made clear in 5.1.3e department A's system was heavily reliant on numeric coding, whilst in department B there was much less coding and even this was largely mnemonic. On the other hand both departments were similar in that the system designers had intended that much of what coding was used would be performed by social workers. Even in department B they had expected that social workers (not just seniors) would update the numeric "category code" on the client information sheet, although seniors were to complete it on the referral form.

However variable CA10 ((a) above) showed a very significant difference between departments in the extent to which social workers said they did their own code completion, this being much less common in department B. This was largely a result of the nature of the two systems. In department A coding was so intrinsic that only total non-cooperation would have enabled a social worker to avoid it, whilst in department B it was perfectly feasible to complete most of each form, and to profit from the results, without using the codes at all.

The nature of the system in department A meant that a code consciousness ((c)(i) above) had of necessity developed, whilst with the relatively peripheral place of coding in department B the picture varied much more from one district to another. One district (B1) had arrived at a policy that seniors should do all coding, whilst in others it was largely a matter which evolved in practice between individual social workers and seniors. However, the general lack of code consciousness in department B applied to seniors as well as to social workers. Of the 37 social workers (including seniors) who completed the mock case ((c)(i) above) in department B, only two updated the category code - one senior and one social work assistant.

This difference between departments was reflected in the answers to a question as to whether social workers had their own codelist. Table 6.1.4d (which excludes seniors, all of whom said they had codelists) shows a very mixed position in department B.

In general social workers did not find that form-completion now took longer than under their previous manual system. There was (CA15) rather less satisfaction in this respect in department A, but comments in interviews suggest that this was not due to the greater time taken in coding as much as to the related matter of "duplication" (f).

(e) Usefulness of the review forms for reference in files

In both departments (5.1.2b) a copy of the review form sent to the computer remained in the case file (and in department B this was replaced by the new version when it arrived from the computer). However there was (CA12 in table 6.1) a very significant difference between departments in how useful this completed form was felt to be for reference purposes, with 45% of social workers in department B considering it "very useful" compared to only 13% in department A.

Reasons why this might have been expected from the design of the systems were given in 5.1.4c. These reasons were confirmed in the detailed interviews with social workers, the main groups of comments being summarised in table 6.1.4e. Although unfavourable comments outweigh favourable, this is not necessarily significant, for it is often easier to identify faults than good points. More important is the comparison between departments. In department A very few favourable comments were received, and the unfavourable ones centred on the use of coding, the lack of narrative space, and the overall presentation: "it certainly has stopped a lot of narrative work ... and if you want to read up on a closed case you have to sit with your codelist, compare the numbers". In department B the main favourable comment was the fact that the form (the computer-printed CIS), which formed the top sheet of the file, was always up-to-date and also consolidated the information from earlier CISs: this was a benefit which could not have been economically realised without the use of a computer. The corresponding drawback, also often mentioned, was the time entailed in the turnround, checking, and filing of the forms.

(f) Relationship between computer forms and previous "manual" forms

In both departments it had been intended by the system designers that the new referral and review forms would completely replace those used under the previous manual system. In 5.1.4a it was pointed out that the new forms had to perform two roles - firstly, for reference, as an integral part of the client file (i.e. replacing previous forms) and, secondly, to provide input to the computer. Inspection of the forms (5.1.4b,c) suggested that in general department B had succeeded in designing forms (and corresponding procedures) which could satisfy both roles; but that department A's forms over-emphasised the

computer-input aspect. The attitudes and reactions of social workers to the forms and coding, reported in this section, confirm this impression.

Unfortunately I did not ask in interviews how far the previous forms had been replaced by the new ones. However, the topic arose often under other questions - for example when asking social workers to compare the old and new forms - and a very different picture emerged in the two departments. In department B the old forms had been entirely replaced and I came across no attempts by staff to retain them. In department A the old forms were still used by many staff at all levels within district offices. Of the 15 interviews in department A in which the topic arose eight social workers said they still used the old forms, four said that others used them, and three said that they were not used. Most staff suspected that they were meant to drop the old forms: "the forms we used to use are much better and I must admit we still tend to use (them)". Senior staff were not keen to give a lead as they too recognised the inadequacy of the new forms. Stocks of old forms were not thrown out and several social workers deliberately retained a good supply in their own desks. Eventually (5.3.1) the dissatisfaction led to the setting up of a "Forms Working Party".

Not surprisingly many social workers in department A, often not being sure what was intended, complained that the computer had resulted in "duplication". A district officer said: "The computer review form is practically totally boxes, whereas if you are doing a social work review it tends to be a fairly comprehensive written thing, and I suppose people are thinking 'Why the hell are we having to do both?'" A social worker put it thus: "I feel that first of all I have to do it to please the computer and then, for my own purposes, from a social work point of view, I have to sit down and rewrite everything". Similar complaints were made about the referral form. A senior said: "The value of a referral form, as I see it, in my role, is to take a good referral. Not just to give the computer the information it wants". As was illustrated by the quote in (e) above this "duplication" sometimes led to an unfortunate reduction in narrative recording.

6.1.5 Overall Attitudes towards the Computer in the two Departments

(a) Introduction

The last three sections have looked at social workers' attitudes to and uses of the three main "concrete" aspects of the computer system - the computer reports (6.1.2), the VDU and client index (6.1.3), and the forms associated with the system (6.1.4). Questions on these matters formed the first and major half of the tape-recorded interviews. Immediately following these questions social workers were asked to consider the system as a whole, and to indicate its main good points and drawbacks, and their overall preference for it as compared to the previous manual system. Further questions relevant to overall attitudes were asked later and these results too are included here.

In the previous sections a generally consistent picture emerged of a greater acceptability and usefulness of the computer to social workers in department B, as regards those aspects of it which impinged on their work. However this was not reflected clearly in overall attitudes to the computer, where the picture is of more equal satisfaction, with none of the correlations being significant at the .05 level. It was the case (CA14 in table 6.1) that more social workers in department B expressed an overall preference for the computer over the previous manual system, but closer inspection of the table shows that this was due to the unusually favourable position in district B3 and the unusually unfavourable position in district A3. Social workers in department A emerged as, if anything, slightly more satisfied with the computer on three other points: whether its cost was a reasonable priority for the department (CA18); whether their opinions had become more or less favourable since it had been introduced (CA17); and whether they were at all cynical about the reasons for its introduction (CA19). This difference between overall satisfaction and attitudes to those aspects which directly affected social workers is discussed in (d) below.

One further point should be made regarding overall attitudes. The fact that this thesis concentrates on the two computer systems exclusively should not disguise the fact that they were only a small element of the life of district offices. For many social workers other issues (secondment for professional training, car allowances, difficulties with a client, the ability of their senior, etc) were of

much greater importance. There were quite a number of comments such as: "I'll leave it (the computer system) to the people who are interested" or "I'm just indifferent you know; people had loads to say about the computer but to me, I just wasn't bothered whether we had one or whether we didn't."

(b) Good points and drawbacks of the system

The first question asked in the second part of the interview was for social workers to indicate the main good points and the main drawbacks of the computer system. The results are summarised in table 6.1.5a. As would be expected from 6.1.2-6.1.4 above, many more staff in department B felt the main benefits themselves than did in department A, whilst the system was seen more as a management and administration tool in department A (see also 6.1.7e). It should be noted that this in no way indicates whether there were more benefits to administration and management in department A, for social workers were not themselves in a position directly to experience benefits to others: it merely shows that social workers there were less inclined to feel that the main benefits were to themselves.

As far as main drawbacks were concerned, social workers in both departments found no difficulty in naming operational problems, but other problems were much more frequently mentioned in department B. Since there was no evidence that other problems were worse in department B this suggests that in department A the operational problems experienced by social workers dominated other problems to the extent that other problems were not seen as "main drawbacks" in comparison. This again confirms the picture of a system more directly useful for social workers in department B.

(c) Objectives of the system, as seen by social workers

The official objectives of introducing a computer were listed in 5.1.1, and details of the previous manual systems were given in 5.5.1. Certain other factors behind the decision (the role of the director and of computer interests) were mentioned in 5.5.2a and 5.5.2b.

Social workers were asked what they thought were the main reasons for introducing a computer, and who they thought were intended to be the main beneficiaries. The results are shown in table 6.1.5b. It has already been shown (eg (b) above) that social workers in

department A saw the system in practice more as a tool for management than did those in department B. The table suggests that they also had this view of the intentions of the system, as regards both its official objectives and its intended beneficiaries. It is true that less staff in department B specifically mentioned intended benefits for social workers, but more pointed to intended all-round benefits for all members of the department and less to benefits for management.

Apart from the official reasons behind the introduction of the computer, it was clear that many social workers in both departments suspected that other motivations were also present. In order to provide a clear opportunity for these to be raised I further asked, where none had yet been mentioned, "Do you think there were any other reasons why it was introduced?" Variable CA19 is a YES/NO variable according to whether any cynicism was expressed about the reasons for the decision, and its values (table 6.1) show 73% of respondents as having doubts about the reasons. Even this figure is likely to be on the low side, since I had the clear impression that several social workers declined to answer in the affirmative out of loyalty to their department. Some of the doubts expressed included: the possible desire of the director for greater prestige or influence within the authority or amongst other authorities; the possibility that the decision had been forced on the department by the authority; the possibility of "wheeling and dealing" or "Poulson-type" activities; the influence of the computer company; that computerisation was "something to do" for research staff at headquarters; that there had been no serious consideration of objectives or of costs and benefits of an improved manual system; and so on.

In spite of this widespread cynicism about the objectives most social workers accepted the presence of the computer, albeit often in a fatalistic way. They recognised that it brought some benefits, and they felt there was in any case nothing they could do to influence the decision - so they might as well make the best of it. Such cynicism was something which social workers in both departments had come to live with in areas other than the computer (4.2.2b). Parsloe et al (1977) reported feeling "somewhat depressed" at the "fatalistic" attitudes of social workers in another context - regarding the inadequacy of resources for administrative back-up.

(d) The difference between overall and particular attitudes in dept. A

It was reported in (a) above that social workers' overall attitudes to the computer and to its cost were more favourable in department A (relative to department B) than should have been expected from their use of and attitudes to those particular parts of the system with which they came into contact in their work. Why was this ?

In the first place, it was noted above that staff in department A saw the computer system more as a tool for management and administration than did those in department B. Thus their overall attitudes towards it were likely to take more account not only of its direct benefits (or drawbacks) to themselves, but also of the effects they imagined it to have for management and administration. It was not the case that department A's system had been intended more than department B's to benefit management and administration staff as compared to social work staff, but a stronger view that it did so (and was intended to) had certainly developed amongst department A's social workers. Thus in answering questions about the computer overall (CA14) and about its cost as a priority for the department (CA18), the fact that social workers in department A found less practical benefit from it themselves than did those in department B was counterbalanced by their stronger conviction of its benefits for management and administration.

This explanation of the difference in attitudes between the two departments is borne out by comments from interviews in department A. The following two quotes are from, respectively, a social work assistant and a senior in district A1:

> "My one cry was day nursery. You know, that was my feeling - all this money could have been used to build a nursery in this district. But, sort of thinking about it more, well the statistics could prove that somewhere else may have a more urgent, sort of, for a day nursery in the area ... So, taking the thing as a whole, I think that probably the money has been used wisely."
>
> "Initially people were terribly worried about the financial element of the computer ... You think of the old peoples' home that perhaps you could have done with, or an extra nursery, then one does get depressed and worried about it. But then when you try to be more objective ... if we know more accurately what we

have client-wise, need-wise, and what we need resource-wise in our areas, then the computer should eventually help us as a tool to plan exactly."

There was a second and important reason for this very clear view amongst social workers of the possible benefits for management. The two quotes above are impressive in that they show that social workers at all levels in district A1 had been able to overcome very strong personal views on the best use of limited resources in order to come up with this more "reasoned" attitude. Similar views were expressed in district A2, although the non-social-worker benefits recognised there were as much to administration as to management. However, in districts A3 and A4, and in all the districts in department B, those social workers who did feel the cost to be worthwhile were less articulate about their reasons and were less able to justify in social work terms their sympathy for the computer. For example they approved of it because they felt that eventually it "could be used more", or that since the authority had paid for the computer the department might as well pay the extra cost to have access to it. Variable CA18 (table 6.1) shows that department A was more favourable to the computer cost than department B only through the very favourable views in districts A1 and A2. This difference between districts A1 and A2 and all other districts resulted from the exceptionally intensive education and implementation process conducted there by project staff from headquarters (5.4.3a), the effects of which can also be seen in social workers' attitudes to the adequacy of consultation (CA20), training (CA21), and the security of the computer system (CA22). The reasons articulated so clearly in the two quotes are similar to the message which project staff told me they had put across during the many days they had spent in these two districts. There was no other likely causal factor: both districts were near the organic pole - but so was B2 which (CA18) strongly objected to the cost; and staff in these districts did not differ significantly from those in other districts in any individual characteristics which might have led them to such clearly thought-out views on the benefits of the computer to management and administration - indeed their level of education was if anything lower than in other districts (variable PT01 in table 4.2b). Paradoxically the heavy use of boxes and coding in department A, which led to such dissatisfaction by social workers with the forms for their

own use (6.1.4), may have helped reinforce the project staff's message of the value of the system for planning and management, by making it look like a statistics gathering exercise.

6.1.6 Confidentiality and the Computer in the two Departments

(a) Introduction

In section 5.1.8 some important differences between the departments as regards confidentiality arrangements were described. In department A it was felt that the technicality of the computer was of itself largely sufficient to ensure greater confidentiality than with the previous manual system. In department B confidentiality had been a major topic of discussion during design of and consultation over the computer. Indeed (5.1.8d) the safeguards included in department B were so extensive as to threaten the future development possibilities of the system.

Some social worker attitudes relevant to confidentiality are shown in table 6.1. Staff in department B were very much more satisfied (CA22) with the security of the computer system (as compared to a manual system) - 76% feeling it more secure as against 48% in department A. They were also (CA25) more willing to consider further extensions of the computer - 33% of staff considered that anything in files could go on the computer, as against 23% in department A. There was little difference on the question of whether social workers thought clients would mind computer storage of information about them - in both departments about 50% thought they would not (CA23).

(b) Confidentiality and control of information stored on the computer

It was suggested to me by a member of the project staff in department B that the great emphasis placed on confidentiality in early discussions about computerisation might have caused over-sensitivity about the issue amongst staff at all levels, resulting in unnecessarily strict precautions being taken. In department A not only were precautions less strict but the extension of "district confidentiality" to "departmental confidentiality" (5.1.8a) was heralded as a big step forward rather than, as in department B, being treated as a matter for great caution.

Whether or not the precautions in department B were too strict - and they certainly had drawbacks (5.1.8d) - variable CA22 suggests that

social workers there were more convinced than those in department A of the security of their computer system as compared to a manual one. However there was unfortunately no clear evidence to confirm whether this difference was a result of the stricter precautions or of the greater discussion of the issue (5.1.8d), or indeed of the lesser contact of district staff with the VDU (see below and 7.2.4d).

When asked to explain why the computer was more or less secure than a manual system social workers in the two departments did not differ greatly (table 6.1.6a). In department A more reasons were given for computer insecurity than in department B, reflecting the overall view there (CA22), but the only other noticeable difference concerned the VDU. Social workers in department A were more likely to feel that the VDU was easy to use and so a threat to security, whilst in department B they were more likely to feel it was hard to use and so a bonus to security. These differences could have been due either to the greater precautions in department B or, perhaps equally likely, to the greater familiarity with the VDU of social workers in department A (6.1.3c).

The worries over computer insecurity fell into various areas. The greatest worry, especially in department A, was that, already, many more people in the department had access to information previously held in one district only. As one senior in department A put it:

> "The ring of people who have the opportunity to look at confidential information has expanded a great deal ... A clerical officer at HQ can quite easily see confidential information about a client from right throughout the whole authority area ... The monthly printouts are brought from HQ by hand with the internal post ... The (research section) are doing exercises all the time with this confidential information ... The number of people who now are looking at this confidential information has just expanded amazingly."

A second worry was that in the future other agencies, departments, or interests might be granted access to computer information. A district officer, for example, could foresee possible conflict with elected members:

> "If in fact the chairman of the social services committee were to demand certain information, I don't believe this department is strong enough to withstand that. Information could be used, possibly without interpretation, by the powers that be, to the

disadvantage of the department's work. You see, under the old system ... if anybody came to this office or asked us for information, I could ask for certain safeguards - I could control it. When it goes on the computer it's outside my control, it's at (headquarters), and I can't really stop people, if they want to, from tuning into that."

In the last quote the district officer was also pointing very explicitly at the loss of control over information - the threat to professional autonomy (1.4.2b) - introduced by the computer. This was echoed by a number of the staff: for example, computer information

"is completely insecure as far as it goes outside this office ... It's far less secure because it can be reproduced in a place that's different from here. This I feel we have lost the control over ... It's really very very bad to have any more information going than goes at the moment, you know, being more readily available."

However, although this question of loss of control was one on which there were strong feelings it was not one on which there was unanimity. A few social workers felt that computer information should, with suitable safeguards, be made available to other relevant agencies; and many saw the extension from district confidentiality to departmental confidentiality as beneficial overall. One social worker, for example, pointed out that if a client from another area called at his office

"it would be a good thing to be able to 'press button B' and get the information rapidly ... I don't mind, as I said before, anyone within the department should be able to get at the information. It could save a lot of problems".

Although I did not normally ask about this in interviews the topic did arise from time to time, and the resulting picture was evenly balanced. Six social workers felt that the wider availability of information throughout the department was beneficial, six felt it to be detrimental, and four mentioned advantages and drawbacks. Furthermore there were indications in interviews that the fact of having the computer, and of having the advantage of access to a complete list of clients throughout the department, had changed some people's views towards becoming more favourable to the widening of confidentiality in this way.

(c) Type of information stored on the computer

A full crosstabulation of variable CA25 by department is given in table 6.1.6b. Most social workers, given the presence of the computer, were willing to see some extension of the information it held. Of course they also expected there to be further such developments.

Staff who wanted restrictions on further information were asked the type of information they would not wish to see computerised. Most commonly this was sensitive personal information, replies being couched either in general terms ("information the client wants kept private to the social worker") or more specifically (child neglect, family violence, incest, prison records, mental health details, supervision orders, adoptions). Also mentioned, though less often, were social worker opinions about clients: "professional opinions", "anything other than fact", "suspicions held by the social worker", and so on. Those social workers who gave reasons as to why such details should not be stored by computer referred almost exclusively to the dangers of wider access. It should be pointed out that some types of information which some social workers did not want to see on the computer were in fact already on it - although they did not always realise this and when they did they had usually resigned themselves to the fact. For example, supervision orders were recorded in both departments. In department A the coding system went into great detail as to the type of order, whilst in department B such detail was occasionally entered as "other information" in the "other agencies" section. Some social workers told of the shock they had received on seeing certain information displayed on a VDU screen or in a printout:

> "I mean it was a shock to me when I was watching a demonstration of it (the VDU) to find HOUSE DIRTY AND NEGLECTED, HUSBAND USUALLY UNEMPLOYED, and all this kind of stuff, right before my eyes; I didn't like it." (Note: although this senior in department A had certainly remembered her shock, her memory for detail was incorrect, since there was no code concerning unemployment, and the other phrase would have been the rather milder UNSATISFACTORY HOME CONDITIONS).

Table 6.1.6b (and CA25 in table 6.1) show a rather greater willingness to contemplate extension of computer information in department B than in department A. Department A already recorded

considerably more types of information than did department B, but comments from interviews in both departments tend to suggest that it was not this but rather the greater satisfaction with computer security in department B which explained the difference. Those social workers who were more worried about computer security tended to be less happy about extensions to information, and vice versa: "the computer is accessible to admin, so some things should not go on it - eg prison records, mental health records". This explanation is confirmed by the correlation between variables CA22 and CA25 (table 6.3.6), this being significant at the .00 level (see note 4 on p. 4).

6.1.7 The Computer and the Nature of Social Work

(a) Introduction

Although the bulk of the interview with social workers concentrated on practical issues (such as forms and printouts) respondents were also asked about the more nebulous matters of the general appropriateness of computers in social work, and the possible threat to autonomy posed by the computer. Such matters are certainly closely linked to the practical issues, and (as has been seen in previous sections) were often raised in discussion on them, but it was felt worthwhile in interviews also to allow respondents an opportunity to comment directly. As will be seen below, social workers' views on the more nebulous matters appeared to be influenced by their experiences of the practical ones.

Satisfaction over the appropriateness of computers in social work, and on the issue of infringement of social workers' professional rights through the greater availability of information to superiors, was significantly greater in department B than in department A (CA16 and CA26 in table 6.1).

(b) Appropriateness of computers in social work

The issue of the general appropriateness of computers in social work was raised, towards the end of interviews, by asking: "Is there anything about the nature of social work that makes computers to some extent out of place would you say?" Overall (table 6.1.7a and CA26 in table 6.1) 28% felt computers definitely out of place, 52% felt them out of place only in certain respects or only to a certain extent, and 19% felt them definitely not out of place.

However there was a significant difference between departments, with 18 social workers in department A considering computers to be inappropriate, as against only seven in department B. This difference is unlikely to have resulted from differing characteristics between the staff in the two departments since such differences were not large (4.2.1). Rather it appeared that this difference in general attitudes to the appropriateness of computers was caused primarily by social workers' experience of the particular system in use in their own department. Further evidence for this claim is given in 6.3.7a below.

(c) Increased information access by superiors - a threat to autonomy?

The possible threat to professional autonomy (1.4.2b) introduced by the computer was raised directly with social workers by asking: "Would you say that the computer in any way infringes on the rights or professional skills and duties of social workers?" In many cases the social worker did not appear to see what I was getting at and after the initial reply it was necessary to prompt by pointing out that superiors now had more access to information about their work, and that the administration might have been strengthened at their expense. Even with these prompts, only 17% said they saw increased access by superiors to details of their work as an infringement - CA16 in table 6.1. (As for infringement by administration a separate variable was not included since there were less replies and since they were in any case similar).

It should be noted that discussion on this question centred most often round immediate superiors - seniors and district officers - rather than headquarters staff. Not only did few social workers see increased access by such superiors as an infringement but several were obviously surprised by such a suggestion and many went on spontaneously to state that it was beneficial and/or right for superiors to have this information: "I wouldn't say it infringes. It imposes on you the need to do your job properly. That's not an infringement". These responses are summarised in table 6.1.7b.

The results tie in with earlier ones. In 6.1.6b it was seen that many social workers thought it right that information should be more widely available. In 6.1.2c it was shown that many social workers, both qualified and unqualified, welcomed the tighter supervision and greater "discipline" resulting from seniors being supplied with

monthly caseload lists. They also echo the results of Beswick (1.4.2a(vi)) who found that many social workers favoured "stricter rules".

Access to information by headquarters staff

It was unfortunate that in prompting social workers I referred to "superiors" rather than distinguishing between immediate superiors (seniors for social workers and district officers for seniors) and headquarters management staff. However it is clear from the comments in interviews (eg table 6.1.7c) that whilst many social workers welcomed more information about their work being sent to their senior, feelings were more mixed about headquarters staff getting information direct from the computer without having to go to the district for it as in the past. The two main complaints were that districts could lose influence in departmental decision-making and that headquarters staff could easily misinterpret computer information.

> "Senior management can get hold of information that much faster and make decisions, and we could get those decisions handed to us on a plate and ... not have any contribution in policy making."
>
> "The worst thing that has happened, which I'm sure (the project staff) feared and tried to avoid, was that we were assured that it wasn't going to be management looking over our shoulders because they now have this information they never had before ... But of course in the very first couple of months we had the assistant director down here like a ton of bricks because he had been reading about all these reviews that were out of date, so he came down and hammered us all. But he didn't understand what a review date meant anyway - how could he when he doesn't know anything about the computer?" (Note: see (f) below regarding the meaning of reviews).

This fear about access to information by headquarters staff was greatest amongst social workers in department A ((e) below).

(d) Other types of infringement mentioned by social workers

Although in drawing up the questionnaire I had used increased access to information by superiors or administration as examples of possible infringements, social workers mentioned a number of other areas in their replies. These are summarised in table 6.1.7c, along with the views expressed by those staff who explained why they felt it right

for superiors to have more information.

The most frequently mentioned other type of "infringement" (and one which also arose at other points during interviews - eg table 6.3.7a) was a perhaps more insidious threat to social workers' ability to control their own work, and it arose in various ways. Some social workers felt they were required to follow more rigid procedures, or spend longer on paperwork, than before: "It sort of imposes on you the fact that you've got to somehow keep up to date with the information ... Fill it in for something that is a bit outside what you were doing before ... I think in that way it's an imposition". Others felt that coding was tending to affect professional judgements: "you are missing out a lot of the finer points ... It's forcing you to take options and make choices and sometimes, you know, you'd rather have a freer hand"; or that computer decisions could replace social worker ones: "I can see this extending to 'Visit needed - such and such a date'. I think there's a chance it will become less of a support than a guide of what to do today, which would be a bad thing". The inflexibility of the computer was commented on by a district officer who had initially been enthusiastic about computerisation but now was against it. As one example, recently he had decided on a new approach to certain cases, under which they would be allocated both to a social worker and to a family aide. The computer could only record one member of staff allocated to each case, and had the client been entered twice this would have distorted the district's caseload figures. Thus a new manual system was being set up, in parallel with the computer.

(e) Differences between the departments over autonomy

As with variable CA26 ((b) above) variable CA16 also showed a significant difference between the two departments, with social workers in department A being more worried about access by superiors to information about their work. Social workers in department A were also less likely (table 6.1.7b) to mention that it was beneficial or right for superiors to have this information.

The reasons given in interviews for these views yet again (see also 6.1.5b) confirm that department A's system was seen more as a tool for management and administration, and less as one for social workers, than was department B's. Table 6.1.7c shows that - both as regards

infringements and benefits - management uses of the information were raised more frequently in department A than department B. Conversely, less social workers in department A mentioned benefits to social workers and seniors.

The greater fear over access to information by superiors in department A certainly resulted in part from the view of the computer as being intended primarily for management - such fears were illustrated by comments in interviews, such as the quotes at the end of (c) above. It may well also have been related to the already considerably lesser autonomy of districts in department A as compared to those in department B (4.1.2b) and a resistance to further encroachment - but it was not possible to tell from the interviews whether or not this was the case.

(f) The meaning of "reviews"

An interesting example of the effect of the computer on social worker practice and opinion concerned reviews. In the past, in both departments, "reviews" had only applied to statutory and complex cases - a date being fixed at which a detailed investigation was made of progress with the case. Under the computer it was possible to set a review date for every case and indeed in department A the computer automatically set such a date if the social worker did not do so! Social workers were then periodically notified by the computer, through the relevant printouts, of dates of forthcoming and overdue reviews.

As with the caseload list (6.1.2) this provided for many social workers a welcome new administrative tool, in keeping up to date with reviews. However it was also a confusing change since whereas in the past a review had meant, as one person put it, "reviewing all that is happening in this particular kid's sort of life", now it also encompassed the simplest of cases, such as an application "for a walking stick or something like that". One respondent found that in explaining a particular point to me it was inadequate just to use the single word "review" - he had to differentiate between "the old type of what a review actually is", and "review on the computer".

Although the new approach had clear advantages it was not without drawbacks. For example it was possible for reviews to be done and yet not entered on the computer. This might be the fault of the social

worker ("I haven't in actual fact used the review form, but I should do ... My individual work with people is up to date, but they are all overdue on the computer") or failure or delay might occur in transferring data to the computer ("Often I've done a review and it hasn't gone onto the computer before the printout (of review dates) comes out ... then I get really annoyed because I think: I've done the review"). For reasons like this overdue reviews were quite common and this fact, together with the lack of distinction between "traditional" and "computer" reviews, led to a number of unfortunate incidents like that illustrated in the last quote in (c) above.

A further drawback of the new system, and one that was aggravated by such incidents, resulted from the fact that to satisfy the computer that a review had been done it was only necessary to submit a form with little more detail on it than the date of the next review. This potential abuse of the system had become sufficiently well known by the time of my visit to earn it a name ("paper review") in one department. A social worker in department B said the system "could obviously be misused to the extent that you can make sure that none of your cases are overdue by simply changing the date, you know, and this has been done". In department A a social worker who was fed up with the computer fixing review dates when he did not want them had solved the problem: "What I've done is I've pretended, I've fed in a date to say they've been done ... and it erases them from the system."

6.2 THE RECEPTION OF THE COMPUTER BY SOCIAL WORKERS IN DISTRICTS

6.2.1 Introduction

In section 1.5.3 the work of Strauss, Beswick and others was quoted to illustrate that we can expect that each district office will develop its own particular "balance" (Strauss) or "ethos" (Beswick) consisting of "the total of all its rules, agreements and understandings of whatever kind" at that particular point in time. As part of that overall balance each district was classified (4.3.5) as being nearer the mechanistic or the organic pole in terms of its organisation.

Similarly it is not surprising to find that each district developed an overall attitude towards the computer. It would be quite wrong to suggest that there were not sometimes strong differences of opinion between staff in the same district but, nonetheless, each district did develop a fairly distinctive overall viewpoint. In general a district which was more favourably inclined towards the new caseload lists was likely also to be more favourable towards the VDU, the forms, the cost of the computer, and to be less cynical about the reasons for its introduction. These "district attitudes" towards the computer will be described in the sections below, and are summarised in the final row of table 6.2.2.

In general (6.2.2) the more organic districts were found to be more favourable to the new computer system and the more mechanistic ones less favourable. However despite this general relationship, the differences between districts in their reception of the same computer system were sometimes due as much or more to other individual factors as to the position of the district on the organic/mechanistic continuum. The influence of these factors, too, will be discussed in the sections below. Such factors included: the presence of an unusually innovative admin section (district B3); lack of commitment to the computer innovation by the district officer (A4); a particularly intensive education and implementation process (A1 and A2); the occurrence of serious technical problems (B1 and B6); the location of the VDU (B3 and B6); and so on.

Following the discussion in 6.2.2 of the general relationship between district structure and reception of the computer, sections 6.2.3-6.2.5 look in detail at three districts - B1, B2, and B3.

District B1 was the nearest to the mechanistic pole of any visited, whilst B2 was the most organic. District B3 occupied an intermediate position but is of particular interest because of the great importance there of special factors. The fact that all three districts were in the same department means that the nature of the system, which 6.1 showed to be very influential, remains constant in comparisons between them. Each of the sections 6.2.3-6.2.5 begins (a) with a very brief summary of district organisation, based on the detailed description in 4.3. This is followed (b) by a summary of the overall district attitude to the computer, based largely on the attitude variables listed in table 6.1. The main bulk of each section then describes the reception by the district of various aspects of the system, relating this where possible to district organisation. It was not felt necessary to go into similar depth in looking at the remaining districts, since the main factors being investigated - district organisation and special circumstances - are well covered through districts B1, B2 and B3. However in appendix 9 a brief description is given of the reception of the computer in each of these remaining districts.

The main statistical data used below is presented in table 6.1. The table and its explanation are included at the start of section 6.1, rather than here, so that comparisons of district data with departmental data can be easily made by inspection of the one table.

6.2.2 Evidence that Organic Districts were more favourable and Mechanistic ones less so

Two pieces of evidence of the general relationship are presented here. This evidence, although it points in the expected direction, cannot be statistically convincing, being based on a sample of only eight districts. Furthermore, the results for the two districts classified as "mixed" must be treated with some caution (for the reasons explained early in this chapter, at the end of the description of table 6.1), effectively reducing the sample to six.

Although the general evidence presented here is not conclusive several of the following sections provide evidence of a particular nature, showing the practical working out of the relationship. They describe the way in which, in districts B1 and B2, the attitudes to and uses of the computer system were related to - and possibly caused

by - particular elements of organic/mechanistic structure, such as the division of labour or the nature of communication within the district.

The first piece of general evidence is table 6.2.2 which displays, for each district: the organic/mechanistic classification (4.3.5); the proportion of staff who (variable CA14) said that overall (excluding the question of cost) they preferred the computer to previous manual methods; and a classification of overall district attitude to the computer, taken from the sections below and (for districts A1-A4 and B6) from appendix 9. Given the qualification above concerning the "mixed" districts, the results in the table point in the expected direction.

Secondly, the final three columns of table 6.1 show, for each of the computer attitude variables, the average proportions of staff who took the specified value of the variable in districts classified as "organic" and "mechanistic". Of the 22 variables there was only one where the more organic districts were less favourable to the computer. This variable (CA25) concerned extension of the existing computer system to include more information currently contained only in casefiles. Staff in mechanistic districts were more willing to contemplate such an extension than were those in organic ones. This is an interesting result: staff in organic districts had adapted better to the innovation, but they were less willing to envisage its further development in this respect.

6.2.3 The Reception of the Computer in District B1

(a) Organisation in district B1 - summary

District B1 was classified (4.3.5) as nearer the mechanistic pole, in comparison with the other districts visited. Specialisation was more clearly worked out and more strictly adhered to (at all levels from admin to seniors), communication was more vertical than usual, and the district officer was known as "very much in charge". The district had the highest proportion of family/child cases of any visited in department B, and the lowest of elderly/handicapped. It had the lowest caseload per social worker. The building was not conducive to mixing, and relatively little mixing took place. The staff were young, with a high proportion of females. The admin staff had suffered the prolonged absence through illness of the senior district clerk.

(b) Reception of the computer in district B1 - summary

In this district, which was the pilot district in department B (4.3.1), there was a clear dislike of the computer. There had been (CA17 in table 6.1) a bigger swing of opinion against the computer since installation than in any other district, and there was (CA19) the greatest cynicism about the reasons for its introduction. Training was felt to have been particularly inadequate (CA21). The most clear-cut feature of social workers' replies was that they appeared to use the system less than in other districts, and a greater reliance was placed on admin staff. Code completion by self (CA10) and usage of the review form (CA13) were both significantly below figures for other districts - although (CA15) staff felt strongly that they now spent more time on form-filling than before. The district also scored lowest (CA08) on whether VDU look-up should be a job for social workers rather than for admin and (CA06) on whether the caseload lists were useful.

The only respects in which the district was unusually favourable to the computer were its clear view (CA22) that the computer was more secure than the previous manual system and its willingness (CA25) to contemplate more information being stored on the computer. This was an interesting contrast to district A2 which was very favourable to the computer in all respects except the extension of computerisation.

(c) Caseload lists

In table 6.1 variable CA05 (dealing with the accuracy of computer reports, as indicated by social workers) is used in dichotomous form, but this rather distorts the picture when the values for "some problems" and "poor" are not combined. The complete range of values is shown in table 6.2.3a for districts B1, B2 and B3. Table 6.2.3b shows the type of errors in caseload lists which were mentioned by social workers. Unfortunately it was impossible for me by observation of the lists to pick up most of these inaccuracies, not knowing the details of each case. It was not possible to ascertain if the list was out of date, if cases were omitted or added, or if codes were incorrect (unless they were invalid). However table 6.2.3c lists those few aspects which could be thus tested. The omission of dates of birth is not really an error, though it can perhaps be taken as a measure of the importance which staff place on form completion. The lower caseloads and higher proportions of child cases (in which dates

of birth are particularly important) in district B1 (table 4.3a) might have led one to expect the district to have fewer cases where date of birth was omitted, but in fact there were slightly more. Invalid category codes refer to a non-existent code being used (e.g. letter 'O' instead of digit '0' in a code), and where the computer would have noticed the mistake had a proper validation program been included in the system (5.5.5b).

The three tables 6.2.3a, b and c all confirm the picture of greater inaccuracy of the lists in district B1. This came through in asides from social workers as well as in direct questions about accuracy. Of three social workers there who spoke about their senior using the list in supervisions, two added comments about accuracy. For example:

> "He will normally say at the end of the month: 'Well, you have opened 15 and only closed 10. Why?' But this is the computer's error because I can turn round and say: 'Well, I have closed 20 but it is not on.'"

Variables CA04 and CA06 (table 6.1) suggest less integration of the caseload lists in day-to-day work, and less appreciation of their value, in district B1 than in districts B2 and B3. This was true at senior as well as social worker level. Although all seniors in all three districts claimed to use the caseload lists in supervisions, their use appeared to be less obvious or less effective as far as social workers in district B1 were concerned (table 6.2.3d). One social worker said that she usually indicated what cases she would like to discuss, and her supervisor only occasionally mentioned others. She had not noticed him using the caseload list though she did "presume that he must use it for something". Another, who said that her senior did have the list in front of him at supervisions, would go no further than "it could be useful for him" and "when we have a supervision, he might look at it."

District B1 appeared almost to have entered a vicious circle over the computer, with poor accuracy leading to a loss of interest by social workers in caseload lists and hence in their correction. This was fed by the difficulties of the admin section (4.3.5), the severe hardware problems (5.4.3b), and by particularly pronounced cynicism over the reasons for the introduction of the computer (CA19). The especially clearcut division of responsibilities in the district also added to problems over corrections. Most social workers regarded the

computer primarily as an administrative tool (i.e. performing only the second of the two roles described in 5.1.4a). One senior explained that in completing the mock case he had not mentioned the contact with the rent officer (even though the form had a space for "other agencies involved") because "it's relating to something of a casework nature". Seeing the computer largely as an administrative tool it was natural that social workers should regard it as the responsibility of the admin staff - and the admin staff themselves accepted this role.

Regarding correction of caseload lists, table 6.2.3e shows that nearly all social workers said they would do this by informing the admin. In fact, with the lack of interest in the system, it is doubtful how consistently this was done. Furthermore, correction and updating of computer information requires the active participation of social workers, since it is they who know the current state of their cases. There was also some suggestion that the additional burden placed on the admin staff (especially since their senior had been absent for some time) was interfering with their other tasks, and that this was affecting social workers' accustomed roles. One social worker said:

> "I've found that I've had to do quite a lot of work that the administrative staff have been doing before. Even just simple little things, like making up your files, they add up to a lot of time, whereas the admin staff they just say: 'We're not doing that any more'. It's partly because of the computer, in that staff time is more taken up with the computer, so they haven't got the time to do the other jobs that they were doing, so we've got to do them."

These aggravations were less apparent in other districts (eg 6.2.4d,h), where social workers and admin were less concerned about the exact demarcation of boundaries. There is no suggestion that district B1 normally experienced such problems in other work procedures but the computer, as a new factor in the district, had not fitted easily into the existing boundaries.

(d) The VDU and the client index

Social workers in district B1 felt strongly (variable CA08) that VDU interrogation was a job for admin staff rather than for social workers. Three other pieces of evidence confirmed that social workers here regarded the VDU as being relevant only to admin staff.

Firstly, when social workers who never or rarely used the VDU were asked why this was, seven mentioned that it was admin's job to use it (or that admin were trained to use it, or would be more accurate). In the other three districts of department B an average of only 3.3 social workers gave this reason. Secondly, when social workers were asked how they normally found out whether a caller was known to the department they were, in contrast to other districts, unanimous in saying that they turned to a member of the admin staff (table 6.2.3f)

The third piece of evidence concerned the location of the VDU. Initially this was placed in the reception area - and its location at a desk normally occupied by a receptionist meant that it was difficult for social workers to use it even if they had wished to. However, when it became clear that receptionists could trace callers more conveniently by use of the client index (6.1.3c) the location of the VDU again came into question. Some social workers were also unhappy about its dominating presence in the small reception area where clients could see it. The matter was raised at a district meeting but, even though the District Officer pointed out that in another district the VDU was located in the main social workers' room, there was a clear preference to move it to the administration room - which was two floors away from the social workers' rooms (4.3.3).

There appeared to be two explanations for this difference between district B1 and other districts. Firstly was the more mechanistic structure, with its stricter division of labour (4.3.5). Thus even the old card index had normally (though not so exclusively as the VDU) been operated by admin staff. A senior put it thus:

> "We have enough admin staff to staff it (the VDU), and on the other side of the coin the social workers have so many things to do that ... I would much prefer them to get on with those jobs rather than work the computer."

Secondly was the strongly felt general disillusion with the whole computer system in this district ((d) above). One junior social

worker reflected a common viewpoint when she said that although it was in principle useful to know how to use the VDU, "I'm pleased that the admin have got all the headaches."

(e) Forms and coding

Social workers in district B1 held views on forms and coding which were very different to those of other districts in department B. Very few (CA10) said they did their own coding and most (CA13) said they rarely used the review form. These statements corresponded to attitudes to other aspects of the computer system ((c) and (d) above). The general disillusion was further illustrated by the fact that although social workers here had a relatively low usage of the forms and did little coding, nonetheless the district again stood out very clearly from others in that most social workers felt they now spent more time on paperwork and form-filling than before (CA15).

In this district, unlike any other, it had been decided that seniors should be responsible for coding, and this decision was fully accepted (although none of the seniors here updated the category code when completing the mock case!). In other districts no responsibility had been allocated and it had emerged in practice between seniors, social workers and admin staff. Thus even though social workers in district B1 had been issued with a file of computer information (including codes) in the early days, by the time of my visit not one social worker could guarantee to be able quickly to find a codelist (table 6.2.3g).

Social workers were asked whether they always sent the review/change form (the CIS - 5.1.2b) for computer input when they altered the information on it in the file. Again (table 6.2.3h) there was less commitment to the computer in this district. Several staff made comments such as: "The sort of thing you might not do is put in all this sort of stuff - other agencies - the sort of information the next social worker won't know, and if you had kept a record there (on the computer) it would be easier for them". This contrasted in particular with district B3 where (6.2.5e) social workers felt it very valuable to have details such as agency information on the computer.

The evidence quoted above suggests that social workers spent less time providing information for the computer than in other districts. Why, then, did they find the computer paperwork more onerous (CA15)?

Firstly there was their greater overall disappointment with the computer ((c-e) above) and a stronger feeling that they were getting inadequate returns for the paperwork. Secondly was the fact that they saw the computer very much as an administrative matter and felt that the new filing work was deleterious to their social work role ((c) above).

(f) Overall attitudes to the computer

The dissatisfaction expressed with the various "concrete" aspects of the computer system ((c)-(e) above) was reflected in overall attitudes to it. Of the four variables used to look at "overall attitudes" district B1 emerged as the least favourable district in department B on three. Social workers here found the overall comparison with the previous manual system least satisfactory (CA14), had the greatest doubts about the reasons for introducing the computer (CA19), and had suffered the worst change of opinion following introduction of the computer (CA17). Their opinions on cost (CA18) were on a par with the rest of the department's, in according low priority to the computer.

The dichotomising of variables in table 6.1 tends to hide the full extent to which the computer was seen as less satisfactory than the previous manual system in district B1, and a full crosstabulation of variable CA14 by district is given in table 6.2.3i. A further indication of general attitudes came when social workers were asked to name the main good points of the computer. Five of the eleven respondents qualified their answers to suggest that they were mentioning intended rather than accomplished benefits: "if it's correctly used it should ...", "it's main good points should be that ...", "the biggest advantage, you know, when we really get into the system, will be ...". In comparison only five social workers made similar qualifications in response to this question in all three other districts put together.

(g) The computer and confidentiality

Although there were no big differences between the various districts in department B on the matter of confidentiality, district B1 was marginally the most satisfied. Variables CA22 and CA25 show that (table 6.1) the district was the second most satisfied as regards the security of information stored on the computer rather than on a manual

system, and it was the most satisfied (equal with B3) as regards whether it was reasonable to store further client information on the computer.

This result is perhaps surprising in view of the generally more negative attitude to the computer. It is, too, a pleasing result in that it suggests that social workers here did not have a low opinion of the computer just for the sake of it, so that they damned every aspect of it, but rather that they were willing to give credit where they felt it to be due. The reason for the surprising degree of satisfaction over confidentiality is not, however, clear. One possible explanation, suggested by several interviews, is the generally lower level of contact of social workers with the computer (and in particular the VDU) in this district. Lack of familiarity with the VDU ((d) above) would make it appear more mysterious and difficult to use (eg 6.3.6a) and lesser contact with the system as a whole might make the reassurances of project staff less open to question. There were several comments such as: "Well, you know, just taking me I've got enough intelligence if there's files there, to find information from files. I wouldn't have a clue how to start the computer, and that's about it" and, from a senior, "Card indexes can be left about offices etc ... but I gather there's only a limited number of people have access to the computer". The result parallels a more general finding (6.3.8) that amongst certain groups of staff (the more successful and ambitious) greater satisfaction with the usefulness of the computer, and greater use of it, was found alongside greater dissatisfaction with some civil liberties aspects; and vice versa.

(h) The computer and the nature of social work

The district was (CA26 in tables 6.1 and 6.2.3j) marginally the most worried in department B on the general question of the appropriateness of a computer in social work, and (CA16) marginally the least worried about greater access to information by superiors being an infringement of social workers' rights. However the differences, especially between districts B1 and B2, were very small.

6.2.4 The Reception of the Computer in District B2

(a) Organisation in district B2 - summary

District B2 was classified (4.3.5) as nearer the organic pole, owing to its particularly democratic and participatory operation. The nature of the district owed a lot to the district officer and his policy as regarded staff-selection (4.3.4). The social workers (of whom a relatively high proportion were male) were significantly older than in other districts, and had come into social work from some previous job in nearly every case. The district had a very effective social centre in its coffee room (4.3.3). The area served consisted largely of former mining villages, providing a low proportion of child/family cases, a high proportion of elderly/handicapped, and high caseloads per social worker.

(b) Reception of the computer in district B2 - summary

The staff of District B2 were around average in their views on the computer, and did not stand out significantly on any of the variables tested. They were certainly more favourable than staff in district B1, and were particularly satisfied with the accuracy and usefulness of the caseload lists (CA05,CA06).

(c) The caseload lists

Variables CA04, CA05, and CA06 suggest that the caseload lists had been relatively well integrated into the work of the office. This is confirmed by other data. Computer reports were seen as accurate (table 6.2.3a) and were well used in supervisions (table 6.2.3d). When social workers were asked what they thought were the reasons for any inaccuracies in the caseload lists, only one person in district B2 laid the blame partly on admin staff, as against three in district B3 and five in district B1. This reflected the good working relationship between social workers and administration (4.3.5), which is further illustrated in (d) below.

(d) The VDU and the client index

District B2 occupied a middle position as regards the VDU and client index although, in comparison to most other districts in department B, it was somewhat more favourable to them and to their use by social workers (CA07,08,09). This slant was in line with the organic structure of the district. Although there was a general principle that admin were responsible for VDU interrogation both the District Officer and the senior admin officer were quite happy for social workers to do this if they wished. The location of the VDU within the admin room was such that anyone could easily sit at it. Only two social workers had taken the opportunity of becoming fairly regular users of the VDU, but the fact that the "principle" of admin having responsibility was not a rigid distinction was illustrated by the comment of one social worker:

> "very often it's not convenient to ask the girl to use the VDU unit when she's taking a phone call. So - there's nothing particularly technical about it - I think I ought to use it myself" (which he did).

(e) Forms and coding

District B2 was (CA10,12,13 & 15 in table 6.1) much more favourable to the computer, as regards forms and coding, than district B1, and compared to the department as a whole was marginally above average. The relatively favourable reaction to computer paperwork by social workers seemed to depend on two factors. First ((c) & (d) above) they in general felt they gained more from the computer than did social workers in district B1. Thus when one social worker was asked if he felt there was now more or less paperwork and form-filling than before he replied: "Perhaps a bit more, but I mean for spending that bit more time I get more information in one place in the file, so there's an advantage to that". Secondly was the less rigid role distinctions between administration, social workers and seniors, making it easier for the new system to be fitted into existing patterns. As far as code completion was concerned, for example, some social workers did their own whilst others relied on their senior (in some cases the same senior).

(f) Overall attitudes to the computer

Overall attitudes to the computer occupied a middle position as compared to districts B1 and B3 (CA14 & CA17 in table 6.1; table 6.2.3i for more detail of CA14). This corresponds to the intermediate position which obtained as regards the use made of and the attitudes to the practical aspects of the system ((c)-(e) above). Cynicism about the reasons for introducing the computer was (CA19) rather less marked than in other districts, but no obvious reason can be adduced for this.

(g) The computer and confidentiality

Staff in this district were the least satisfied of any district in department B over confidentiality - though the differences between districts were not great (CA22 & CA25 in table 6.1). Social workers' worries were varied: that access by other departments or agencies might eventually be permitted, that information about clients was becoming more widely available within the department, and that an unscrupulous or inquisitive person could relatively easily obtain unauthorised information from the VDU. Comments by social workers showed that their greater familiarity with the VDU ((d) above) compared to social workers in district B1 (6.2.3d) meant they were more aware of the possibility of unauthorised access. For example:

> "Anyone with a reasonable knowledge of computers can dial and can obtain much more information (than before) ... When the system is fully operational they can obtain from literally all seven districts, plus HQ."
>
> "It seems to me that any intelligent person could find a way to tune into the computer."

One could speculate also that the greater maturity and wider experience of workers in this district, compared to district B1 (4.3.4), would lead to a more sceptical view of how well confidentiality could or would be protected in this technical innovation. Certainly answers here were considerably longer and more thought-out about the possibilities and dangers of wider access to information.

(h) The computer and the nature of social work

The district occupied intermediate positions compared to others in department B on the question of the general appropriateness of computers in social work (CA26) and on whether greater access to information by superiors represented an infringement (CA16). However the differences were very marginal. One point which did come out in the discussion on infringement of social workers' rights was the particularly harmonious relationship in this district between social workers and administration (see also 4.3.5). There were no worries, as there were some in district B1, that a strengthening of administration brought about by the computer was or could be detrimental to social workers.

6.2.5 The Reception of the Computer in District B3

(a) Organisation in district B3 - summary

District B3 was classified (4.3.5) as midway between organic and mechanistic, relative to the other districts visited, but the district was very distinctive in a number of other respects. Most striking (4.3.5) was the "advanced" nature of the admin section. Also very important (4.3.3) was the location of the VDU, outside the normal experience of most social workers and, instead, the provision of a computer-printed client index at the duty desk (which was situated in the main social workers' room, also the district's social centre).

The staff (4.3.4) were better qualified and educated than elsewhere. The area (4.3.2) was similar to district B2 and had the lowest proportion of child/family cases, the highest of elderly/handicapped, and the highest district and individual caseloads of any district visited. A deliberate rationing policy had had to be introduced prior to computerisation.

(b) Reception of the computer in district B3 - summary

This district was strongly favourable to the computer relative to most other districts, and appeared to make considerable use of it. No social workers at all felt the use of a computer to be inappropriate in social work (CA26 in table 6.1). There was a significant difference from other districts as regards preference for the computer over the previous manual system (CA14) and for the printed client

index over the previous card index (CA09). This district had also been the only one in which the majority of staff had become more favourable to the computer following its introduction (CA17). As regards reported use of the system, more staff here had turned to the new caseload list instead of sticking to their old manual system (CA04), and there was (CA13) a particularly high degree of use of the review form (the CIS - 5.1.4c). Despite this, most staff felt that the time spent on form-completion had not increased (CA15) - in marked contrast to district B1 where, despite low usage of the forms, staff felt that time spent form-filling had increased considerably.

One part of the system which was virtually never used by the social workers here (CA07) was the VDU. This can ((d) below) be put down largely to its location and the alternatives available - but it is interesting that the computer was nonetheless so popular here.

(c) The caseload lists

Variables CA04 and CA06 show that in district B3 social workers found the caseload lists useful, and that a relatively high proportion of social workers had gone over to use of them for caseload management. They were also well used in supervisions (table 6.2.3d).

The reasons given by social workers as to why they now used these lists for caseload management are summarised in table 6.2.5a. In all districts in department B the saving in paperwork was one reason given but only in district B3 was better quality information mentioned. (This does however rather misrepresent the unusual position in district B2, where a compulsory manual system of caseload management had operated previously. Each social worker had been issued with a card index, which normally sat on their desk, and they had been expected to keep this up to date as a summary of their caseload. In districts B1 and B3 only those social workers who had felt so inclined had kept up-to-date handwritten lists of cases. Thus staff in district B2 were less inclined to claim that the caseload list gave better quality information, because they had had a fairly efficient system before; and more inclined to notice the saving in paperwork, because they had had a semi-compulsory system before.)

Unanticipated innovative uses of the caseload lists

In 4.3.5 it was noted that the administration in district B3 had developed beyond its basic role and (in collaboration with the district officer) was responsible for a range of procedural innovations which were generally appreciated by seniors and social workers. This was nowhere more apparent than in the district's use of computer information such as the caseload lists.

Although there was some willingness to experiment with the computer in other districts (6.1.2e), none was as adventurous as district B3. Here it was realised early on that by inventing codes for non-existent social workers, and allocating particular types of cases to these codes, then each month the district would automatically receive lists, analyses, and review-date lists for such categories of cases. At the time of my visit the district was already using this method for bus-pass applicants, for cases referred under the Childrens and Young Persons Act, and for "deferred allocations" (i.e. cases which the district had temporarily deferred owing to staff shortages), and was considering using it to set up computerised registers of foster parents and of clients awaiting aids and adaptations. These categories of client did not require the permanent allocation of a real social worker, in the view of the district, but a regular procedure was needed to ensure they did not get "lost", and the computer provided an ideal means for this. Previously such cases had been on social worker caseloads and, in the words of a senior, "clogged them up". Their numbers (4.3.2) had already resulted in the district setting up a sophisticated manual system of deferred allocations some time prior to computerisation. The aim now was to "make the paperwork caseload a realistic representation of the actual caseload, and to keep social workers' paperwork not a too big burden".

The administration in district B3 had also, immediately the computer was introduced, created new sectionalised looseleaf files for each senior, to contain all the computer reports they would receive. These files were kept up-to-date by admin staff as each new batch of reports arrived. The files included sections for the caseload lists of each of that senior's social workers; and within each section the reports were filed with the most recent on top. Whilst a few seniors in other districts did keep similar files, none were as sophisticated, and they in any case relied largely on the senior to keep up to date.

(d) The VDU and the client index

The location of the VDU and client index in this district were (4.3.3) very different from other districts. The (shared) VDU was so far away as to be largely outside the experience of most social workers, and the extra copy of the client index which sat on the duty desk was the only means used to look up individual callers. Although this had initially been seen very much as a second best by the district, who felt they should have their own VDU, it rapidly settled down into a most successful arrangement. For example, quite unlike other districts, social workers normally never needed to call on admin staff to find out whether an individual was known to the department (table 6.2.3f). Thus it was that, although this district was probably the most favourable of all to the computer overall, no social workers used the VDU (variable CA07) and very few even thought (CA08) that VDU interrogation was a job for social workers.

The district had (CA09) a striking preference for the computer procedure for finding out whether an individual was known, as compared to the previous card index method. This is not surprising in view of the arrangements mentioned above. As was shown in 6.1.3b the client index was at least as quick and simple to look up as the card index, it covered the whole department, and it was more complete and accurate. Also, it was situated by the duty desk telephone in the social workers' main room, whereas the card index used to be in the admin room. Secondly, by never having had the VDU in the office social workers had not developed the strong feeling of disillusion (eg 6.1.3b(ii)) which had arisen in other districts where the problems of downtime, restricted access to the VDU (only one person being able to use it at a time), and slowness of response were plain for all to see - and contrasted strongly with the expectations which had been created for the VDU.

The innovative role of the admin section in this district (4.3.5) was again illustrated by its request to project staff for a revision of the client index so that it was ordered by surname then street name rather than surname then forename. Under the original ordering two Smiths belonging to the same household might be separated by a hundred or more other Smiths on the index, whereas with the revision they were likely to appear very close to each other. Some other districts had

responded to the increasing length of the client index by the less imaginative suggestion that they should be supplied with an index covering only clients from their particular district. As a point of interest, note that the reordered index in district B3 had a parallel in the system in department A where it was possible (5.1.5a) to look up an individual on the VDU by surname and street name rather than by name only.

(e) Forms and coding

District B3 was (CA10, 12, 15) rather more favourable than average for the department towards the forms and coding. This was the only district in either department where favourable comments about the review form (CIS) outnumbered unfavourable: the results for districts B1-B3 are shown in table 6.2.5b. There was (CA13) particularly high usage of the review form, and this is confirmed in table 6.2.3h. Not only was the form more frequently used, but the use made was more comprehensive. For example, in completing the mock case (A3.3) there were 11 occasions (compared to at most four in any other district) where the "other agencies" section was used to enter information about the rent officer or the day nursery.

The reason for the relatively favourable reaction to the forms and coding would appear to be the fact that social workers in this district found the computer information particularly useful - much of this being due to the role of the admin staff in developing the use of the computer, as explained earlier. Use of the "other agencies" section, for example, was something that the admin staff had pushed hard, and which social workers now found useful:

> "I find this beneficial - other agencies involved - because there are certain areas of our work that we could overlap, or you could re-refer."

Whilst it is true that the social workers here were on average rather better qualified and educated than in other districts this is less likely to explain the difference - overall there was no correlation (6.3.4) between attitudes to forms/coding and level of education or qualification, and in any case the part played by admin in this district was very powerfully obvious as has already been illustrated several times.

Special uses of codes

One innovation in the use of the computer here was the introduction of special meanings for certain codes. Although this was valuable for the district it casts some doubts on the validity of statistics obtained centrally at HQ from the computer (6.1.4c(ii)). For example a code which on the codelist was defined as "General handicap - other classified persons" was used for "handicapped persons with bus passes"; and a code defined as "Elderly not in any other category" was used for "elderly in department hostels and not in any other category".

(f) Overall attitudes to the computer in district B3

As in districts B1 and B2, overall attitudes to the computer tended to reflect attitudes to those particular aspects ((c)-(e) above) which impinged directly on social workers: staff here were generally the most favourable of all three districts to the computer system as a whole. Sections (c)-(e) above have shown why, even though the district fell in an intermediate position on the organic/mechanistic continuum, the computer had proved to be unusually useful to social work staff.

Further questions on overall opinions again picked out the practical benefits as contributing to favourable overall attitudes. Social workers were asked (table 6.2.5c) to state the main good points and drawbacks of the computer system. For the main good points benefits to social workers came out strongest in district B3, whilst amongst the main drawbacks operational problems affecting social workers were seen as less serious than in other districts as compared to other problems.

Immediately following the question on main good points and drawbacks social workers were asked to state their overall preference for the computer as compared to the previous manual system. There was (CA14 in tables 6.1 and 6.2.3i) a significant difference between district B3 and all other districts. Furthermore (CA17) district B3 had experienced a greater shift of opinion towards the computer following its introduction than had any other district visited.

(g) The computer and confidentiality

Staff in this district were in general satisfied on confidentiality issues, the results for variables CA22 and CA25 in table 6.1 being similar to the most satisfied district (B1) - 6.2.3g. The similarity to district B1 is surprising in view of the great difference between the two districts regarding attitudes to other aspects of the computer. As for district B1 no wholly satisfactory explanation emerges from the data: but again, however, part of the explanation may be the absence of the VDU from the experience of most social workers (here due to its location - see (d) above - rather than to the procedures of the office). As in district B1 social workers when asked about the security of the computer displayed less knowledge of how information could be obtained from the VDU, and less doubts about the likelihood of unauthorised access, than did those in district B2 where the VDU was much more familiar to social workers.

(h) The computer and the nature of social work

The district was the most satisfied of any over the question of the appropriateness of computers in social work (CA26 in table 6.1). The full crosstabulation (table 6.2.3j) shows that no social workers at all in this district felt computers to be entirely inappropriate.

As in other districts in this department there was very little worry (CA16) about access to computer information by superiors being an infringement on social workers' rights. However the greater usefulness of the computer to social workers in the district again emerged in discussion on this question: six social workers spontaneously mentioned benefits to seniors and social workers resulting from the computer, as against an average of 1.5 in districts B1 and B2; and only one mentioned other possible infringements resulting from the computer as against an average of four in districts B1 and B2.

6.3 THE RECEPTION OF THE COMPUTER BY INDIVIDUAL SOCIAL WORKERS

6.3.1 Introduction

The work of Beswick and others (1.5.3) suggests that the reception of the computer in a particular district is likely to be related more to district factors - the general "ethos" or "balance" within the office - than to individual characteristics of the social workers (although the individual characteristics themselves will depend in part on the district). Nonetheless it was thought worthwhile to see whether in fact differences in attitudes or use could be found which did appear to relate primarily to individual characteristics.

As explained in an appendix (A3.4.2) various elements were taken from general concepts such as "cosmopolitan". The intention was not primarily to find out whether, for example, cosmopolitans were more likely to be favourable to the computer than locals, but rather to use the basic elements themselves. This approach does of course allow distinctions between cosmopolitan and local types to be noted; since some or all of the elements relating to these concepts will then correlate significantly with attitudes to the computer. However the approach also allows other groupings of the basic elements to be shown up - groupings which do not form one of the original concepts from which the elements were derived. Thus for example we will see in 6.3.2a that it was generally the more professional and cosmopolitan social workers who found caseload lists most useful, but (6.3.3a) when it came to use of the VDU the type of social worker who appeared most willing to participate could not adequately be labelled using any of the original concepts.

Sections 6.3.2-6.3.7 look in turn at different aspects of the computer systems, and see how attitudes to and uses of each aspect varied according to social worker characteristics. Each section refers to a table (tables 6.3.2-6.3.7) showing the significances of all Kendalls tau correlations (significant at the .01 level or better) between the computer attitude variables relevant to that section and social worker characteristic variables. Also included in the tables are correlations (significant at the .01 level or better) between the relevant computer attitude variables and all computer attitude variables.

The following points should be noted for the interpretation of the tables. Firstly, in order that the directions of correlations can be seen from the table, significance figures are underlined where the correlation is negative, and the lower values of all variables are described in words. Secondly the number of ordinal social worker characteristic variables tested for these correlations was 60, and the number of computer attitude variables is 22. Thus, since a correlation of .01 significance is expected to arise by chance on one occasion in 100, there is a 60% expectation that one correlation significant at the .01 level or better with the social worker characteristic variables would arise by chance in each column of the table; and a 22% expectation that there would be such a correlation with the computer attitude variables. Thirdly where there is a correlation significant at the .05 level or better between any variables already in the table, this significance figure is stated. There are, of course, other correlations significant at the .05 level (but not at the .01 level) - these can be inspected in appendix 6. To include all correlations significant at the .05 level in the tables in the present chapter would lengthen them considerably, and would also make interpretation harder - since three correlations with social worker characteristics could then be expected to arise by chance in each table instead of less than one (in fact, 0.6) when only .01 significances are included.

Finally, section 6.3.8 describes which of the social worker characteristic variables proved most useful in discriminating between social workers who did and did not favour the computer.

6.3.2 Individual Social Workers and the Caseload Lists

(a) Correlations with social worker characteristics

Table 6.3.2 shows that social workers' reported usage of the caseload lists (variable CA04) did not correlate at the .01 significance level with any of the more important social worker characteristic variables. It did however correlate at this level with three variables concerning paperwork. These correlations suggest that those social workers who preferred using the caseload lists to their previous manual method were those with the largest caseloads (variable PE21), those who were most prone to make mistakes in form completion (PF01), and those who were more inclined to see form completion as an

important activity (SV45): in other words, those to whom it was of the greatest practical assistance. This result is in line with those of Hill and others (1.4.4), who concluded that social workers would be more willing to accept new administrative methods if they eased paperwork problems.

Social workers' attitudes to the usefulness of the caseload lists (CA06) correlated at the .00 significance level both with their reported use of them and, at least at the .01 level, with variables PE21 and SV45 mentioned above. However, unlike the usage variable the usefulness variable also correlated very strongly with a large number of social worker characteristic variables, all suggesting that those who thought the caseload lists most useful were experienced staff with professional and to some extent cosmopolitan inclinations. They were in general older (PP03), more qualified (PT03), in a higher position (PX21), more experienced in fieldwork (PX23), and members of the professional association (PE26); they expected to reach a higher position (PE24), placed a greater importance on social work theory (SU05), and thought professional standards more important (SV04). It was pointed out earlier (6.1.2c) that caseload lists had taken the greatest hold in the work of senior social workers, and this might have explained these correlations. However, table 6.3.2a shows that, although it was senior staff who found the reports most useful nonetheless even excluding seniors there was a very marked difference indeed between qualified and unqualified staff.

This result does not support the hypothesis (1.4.1) that the nature of a social worker's training could result in greater hostility to computer use - but see 6.3.8. The difference between qualified and unqualified social workers also tallies with the notion of professions as interest groups (1.4.2b), in which greater control over work performance is seen as the central issue. Although caseload lists gave seniors a greater control over basic-grade social workers (6.1.2c), they also gave the social workers themselves a means of keeping better control over their own work (6.1.2b). Furthermore, interviews suggested that the tighter control exercised by seniors through the caseload lists was often seen by social workers as necessary professional supervision (6.1.2c) rather than as a threat to their autonomy. Finally the caseload lists were largely restricted to senior and social worker use, and were not generally used by

headquarters staff or district officers to monitor district activity. Thus overall it is perhaps not surprising that caseload lists, giving social workers greater control over their own work, should be seen as more useful by those staff who were professionally qualified.

(b) Correlations with other computer variables

Table 6.3.2 also shows, not surprisingly, that in general those staff who used the caseload lists, and those who found them useful, were more likely to be favourably disposed to the computer in other respects as well. They were more likely to prefer the VDU/client index to the old card index (CA09), to prefer the new review form (CA12), to have greater overall satisfaction with the computer (CA14) and even with the general question of the appropriateness of computers in social work (CA26).

(c) A particular district

The use made of the caseload lists (and of the computer in general) in district A4 was particularly interesting since the facts of inadequate implementation in that district (5.4.3a), of weak district leadership (A9.4,A9.5), and of lack of interest in the computer by the district officer (who was retiring in a short time and did not want to get involved with the "comptometer"), meant that the use made of the lists depended to an unusually high degree on the attitude, interest, and initiative of the social workers and, in particular, of their seniors.

The senior of the short-term team was young and enthusiastic. He was currently taking evening classes in management (including sessions on computers) to increase his expertise and further his career. His team had (A9.5) developed into an efficent self-contained unit within the less-organised structure of the whole district. He was particularly interested in the computer and, at least for those of his team who were not interested, had taken over much of the work of correcting and updating of computer information. One of his staff said:

> "He has great interest in the workings of this ... I point out mistakes to him and he checks. He keeps the computer right for the whole team, I think."

This position contrasted with that in the long term section where, at least until recently, little use had been made of the caseload lists or other computer information by either senior. Indeed the staff still maintained their card-index of all long-term cases. One of the two seniors had recently had a change of heart, and had begun to see a value in the caseload list:

> "I've been beginning to use the printouts in an effort to evaluate the demands that are placed on my team. I use it to add notes onto, to make comments, and it acts as a reminder to me in supervisions."

This recent use had made him suddenly aware of the inaccuracies which were not getting corrected (as a result he had recently instructed the admin staff to run over the lists with his team members until they were correct), and of his own inadequate understanding:

> "Yesterday I needed some information. I immediately recognised that the computer could provide it, but because of my more negative attitude in the past I don't know how to operate the blasted thing!"

The second long-term senior remained very largely uninterested in the computer, and kept to her previous manual system of typed caseload lists. She found this perfectly satisfactory, and felt no need to change to using the computer lists, which she passed to her social workers after a quick look for "any notable mistakes or omissions". The team included two social workers with completely opposite attitudes to the computer. One (with previous experience of computers) used the lists to the full, always correcting them and even using them in supervisions whilst his senior used her typed list. The other would have nothing to do with the computer, to the extent of refusing to complete computer input forms and not even looking at the caseload list. This social worker had developed a simple but comprehensive manual recording system to ensure that visits and reviews were held at reasonable intervals, and saw no reason why he should change to a system which he felt had no obvious advantages.

The fact that such different uses of the same caseload lists could co-exist not only in the same district but even in the same team, shows that individual attitudes can certainly be important, especially where leadership is weak.

6.3.3 Individual Social Workers and the VDU

(a) Use of the VDU by social workers

Table 6.3.3 shows that variables CA07 and CA08, concerning VDU usage, correlated strongly with each other. In addition, in all cases where either CA07 or CA08 correlated at the .01 level or better with some ordinal social worker characteristic variable then the other of these two CA variables also correlated with that variable in the same direction (although not necessarily at the same significance level). Thus social workers who used the VDU and those who thought that VDU interrogation was a suitable job for social workers tended to be the same type of people. They were more likely to be male (PP02), young (PP03), and to have spent less years in fieldwork (PX23). They tended to see social work in an individual context (SU23) and to regard casework, counselling and "friendly check-ups" as particularly important activities (SV42,SV47) whilst supervision sessions with seniors (SV41) were seen as relatively unimportant. Their previous experience (PX24) and training (PT04) was more likely to have been in science, management and industry. The overall picture is of people who had fairly recently moved to social work from a commercial or scientific background, who were fairly confident in their own abilities, and whose approach to social work tended to be "individualistic" (1.4.3b) and to emphasise the importance of personal contact with clients.

As one example, in district B2 the only two social workers who had chosen to use the VDU themselves regularly (6.2.4d) were both male, one was aged 25-35, and both were trained and/or experienced in science (though not in computing). One had been in social work for five years, but the other had only changed his career to social work 12 or 18 months previously. A remark made in passing by one of them, "There's nothing particularly technical about it (the VDU)", probably reflected his scientific background, even though this was the social worker who had changed his career five years previously. In contrast, another social worker in the same district (a qualified female aged 35-45 who had been in social work for 10 years and in another caring profession previously) felt that use of the VDU should be restricted to admin staff "rather than allowing everybody a free hand to crash off and on the machine", although she also felt that in pre-computer

days "one of the advantages was that each individual social worker could go down and check the card index."

Although there was a general tendency for those who favoured the computer in one practical respect to favour it in others (6.3.8) this was not the case as regards usage of the VDU: variables CA07 and CA08 did not correlate strongly with other computer variables (except, at the .05 level only, with CA14). However, one interesting and perhaps surprising result was the strong correlation between CA08 and CA27, indicating that the more months experience that social workers had of the computer, the more they felt that the VDU should be exclusively or largely for the use of admin. This result appears to confirm the disillusion with the VDU which was referred to a number of times in 6.1.3.

(b) Preference for VDU/Client Index over card index.

Variable CA09 only correlated at the .01 level or over with two social worker characteristic variables, neither of which was a particularly important one: social workers who preferred the VDU/client index to the card index tended to have greater supervisory experience and not to place great importance on views of colleagues.

There was, however, an interesting contrast between this variable and variables CA07 and CA08. It was noted in (a) that CA07 and CA08 did not correlate significantly with other computer attitude variables; whereas table 6.3.3 shows that CA09 does. Thus although (6.3.8) favourable attitudes to the use or usefulness of the system in different respects tended to go together, and although this was true of attitudes to the usefulness of the VDU/client index, it did not apply to attitudes to the use of the VDU. The distinctive type of social worker who was favourable to VDU use by social workers was described in (a) above.

6.3.4 Individual Social Workers and the Computer Forms

The number of correlations significant at the .01 level between social worker characteristics and attitudes to forms and coding (table 6.3.4) was hardly greater than would have been expected to arise by chance. Only five social-work related characteristic variables (PE24, SU03, SV01, SV03, CA01) appeared in such correlations. No consistent pattern appeared, and none of the computer attitude variables correlated significantly with more than three of these variables.

Variable CA10 did correlate significantly with four variables (SW21, SW23, SW41, SW51) which concerned contact between the social worker and headquarters staff (including project staff). Thus it appeared that where there was greater contact the social worker was more likely to perform code-completion rather than relying on the senior or the admin staff. It would, however, be spurious to conclude that there was a causal relationship. The correlations in fact arose because of two other independent factors: firstly (4.2.2a) in department A there was greater contact between districts and headquarters both generally and also as regards computer project staff. Secondly, in department A the nature of the system meant (6.1.4d) that social workers were much more likely to do their own coding. In order to confirm that the correlations resulted from this difference between departments rather than from a causal relationship the four variables SW21, SW23, SW41 and SW51 were correlated against CA10 within the two departments separately. The results are shown in table 6.3.4a, and it can be seen that only two of the eight correlations retain their significance.

As far as correlations with other computer variables were concerned, again staff who were favourable to the computer in general terms were those most likely to favour it with regard to the specifics of forms and coding. For example, those who felt that no more time was spent on form-filling and paperwork than previously (CA15) tended to prefer the computer overall to the old manual system (CA14), they thought the cost of the computer more reasonable (CA18), and they were less cynical about the reasons for the introduction of the computer (CA19).

6.3.5 Individual Social Workers and Overall Attitudes to the Computer

(a) Computer versus previous manual system

Variable CA14 in table 6.3.5 shows that those social workers who preferred the computer to the previous manual system tended to be male (PP02), qualified (PT03), and to expect promotion in their social work career (PE24). They also tended (PX24) to have moved into social work after earlier experience in industry. Thus they were in general of a more cosmopolitan orientation than those who preferred the old manual system - results similar to those found by Hebden et al (1.4.1). The characteristics listed above overlap, as would be expected, with those mentioned in 6.3.3 and 6.3.4 concerning staff who favoured particular aspects of the computer system. It is not surprising either to find in table 6.3.5 that overall preference for the computer correlates strongly with favourable attitudes to particular aspects of it.

Correlations of variable CA17 with social worker characteristics provide an interesting result: those social workers who had become more favourable to the computer following its introduction tended to be female (PP02), to have a low expectation of promotion (PE24), and to have less years of post-school education (PT01). These characteristics were the opposite of staff who were the most favourable to the computer (CA14 above). Thus an effect of introducing the computer had been to narrow the gap between the more pessimistic expectations of the less cosmopolitan and the more optimistic (or, less pessimistic) expectations of the more cosmopolitan. Those whose attitudes had changed most in favour of the computer also tended to be those with the largest caseloads (PE21). Such caseloads were usually of elderly and disabled, and were often held by the less qualified social workers and social work assistants - who tended to be female and less ambitious. It is possible that the greater shift in favour of the computer amongst this group was due to the undoubtedly greater usefulness of the computer for those with large caseloads. Another possible explanation is that the less cosmopolitan staff started out with a lesser understanding of and a greater fear of computers, and so were particularly pleased when their worst fears did not come to pass. The interview transcripts suggest that both explanations have some relevance.

(b) Reasons for introducing the computer

Those social workers who felt (SV06 in table 6.3.5) that the views of the director should be a particularly important influence on social workers tended to view the cost of the computer more favourably. Other than this the cost variable (CA18) did not correlate at the .01 significance level with any social worker characteristic variables. It did, however, correlate strongly with various variables (CA09, CA14, CA15) concerning attitudes to the usefulness of the computer.

Many social workers (6.1.5c) displayed a degree of cynicism about the reasons for the introduction of the computer. Table 6.3.5 shows that those social workers who were more cynical also tended to question authority in other respects. With regard to the various influences they felt should affect a social worker's approach to their work they gave relatively low importance to the views of their director (SV01), and relatively high importance to the views of their colleagues (SV08). They placed greater importance on the views of clients: they were more likely to feel that the client's permission should be obtained before cases were discussed with colleagues (SU02), and they were more willing to consider clients being given access to their own file (CA24). They also tended to be more worried about the security of information held on the computer (CA22) and, albeit at lesser significance levels, to have greater doubts about the usefulness of the computer (CA09, CA14, CA15). Also with significance levels in the .01 to .05 range they tended to be male (PP02), more highly educated (PT01, PT02), more experienced in social work (PX23) and professionally qualified (PE26) - see appendix 6 for correlations with significances less than .01. Thus overall those who were more cynical about the reasons for introducing a computer appeared to be professional and highly-educated staff who sympathised with trends in social work theory which give greater weight to the role of the client (1.4.3a). The interview transcripts did not suggest why such types should exhibit more cynicism over the reasons for the introduction of the computer. It may of course be that this type of social worker is the sort most likely to question authority in any field, rather than just specifically over the introduction of the computer.

6.3.6 Individual Social Workers and Confidentiality

(a) Attitudes towards security of information on the computer

Table 6.3.6 (variable CA22) reveals a particularly clear picture of a type of social worker who felt that information stored on the computer was more secure than that on a manual system. Unlike most such groups of correlations earlier in 6.3 there are no correlations here involving important factual variables such as age, social work qualification, position in the district, etc. Rather the type is based solely on a collection of attitudes. Social workers who felt the computer to be particularly secure tended to regard departmental rules (SV01), supervision sessions (SV41) and form-filling (SV45) as important, and to be less cynical about the reasons for introducing the computer (CA19). They also set higher store on professional standards (SV04), preferred a detached to an emotional relationship with clients (SU04 - see also 1.4.2a(iv)), and tended to feel that clients would not worry about information being stored on a computer (CA23).

This type is not easily summarised in terms of the concepts discussed in chapter 1, although they are perhaps most like a "local who prefers to work in a mechanistic setting". The belief in rules and supervisions, and the trust of superiors, all indicate loyalty to the organisation and preference for a hierarchy of authority and communication. The importance placed on professionalism (SV04 and SU04) is more difficult since locals have a low commitment to professional skills - this will be mentioned again below. The preference for a detached relationship with clients may relate as much to the belief in order and authority as to professionalism.

As regards their feelings towards the computer it is not surprising to find that these social workers, who considered information stored on it to be particularly secure, also preferred it to the previous manual system overall (CA14), felt that a computer is appropriate in social work (CA26), and found it more acceptable that the amount of client information on the computer should be extended.

In order to try and get a better picture of this type of social worker, all those cases were selected where the social worker agreed with the type on at least five of the six variables SU04, SV01, SV04, SV41, SV42, CA19, and did not disagree on any (ie they could occupy a central position on at most one of the variables). This yielded six

cases. Of these five were female, the average age was 40 (compared to 34 amongst respondents as a whole), three were seniors and two others qualified, and all but one expected to remain with the department for more than two years (this was only true of just over half of all respondents - table 4.2b). This largely confirms the picture of a local who, even though she is likely to be professionally qualified, does not allow professional loyalty to outweigh departmental loyalty.

The attitudes to the computer of these six staff were next considered, and a very consistent picture emerged. Four of the five who replied felt that the printouts were a "great help" (compared to 24% of all respondents), all six usually did their own code completion (compared to 67%), five of the six preferred the computer system overall to the previous manual system (49%), and five of the six had become more favourable to the computer since it had been introduced (38%). However despite this highly favourable attitude five of the six (the exception being the male) never used a VDU (compared to 58% of all respondents) and all five who replied felt that the VDU should be wholly or mainly for admin staff (61%). All six felt that information was more secure on the computer than in a manual system (62%), and three felt that anything in files could reasonably be stored on the computer (25%).

The reasons given by these social workers as to <u>why</u> the computer was more secure than a manual system showed that they all felt the technicalities of computers to be difficult to understand. Either they said so in so many words: "Well if you've had no training on a computer it would be just double-dutch;" or they were unable to produce any explanation: "Oh, yes, without a doubt, it's bound to be more secure, isn't it, bound to be more secure;" or they just repeated what they had been told: "Well I understand that there is a key which has to be used before the computer can be operated and therefore it's pretty secure."

To these social workers the paperwork and printouts associated with the computer were very valuable indeed, but the computer itself (and, in particular, its technical presence in the districts in the form of the VDU) was mysterious and complex - and hence secure. However, although this specific group combined non-use of the VDU with a strong belief in its security, there was no general relationship between these two variables (CA07 and CA22 in appendix 6).

It was noted in 6.3.5 that there was an association between the more cosmopolitan social workers and those who had an overall preference for the computer over the previous manual system. In the present section however it has been found that a certain type of local is very favourable to the computer in a number of respects including the question of the security of information stored on it. This view of computer security, however, is founded on mystery rather than on experience or on understanding! The result is in line with Gouldner's finding (1.4.1) that within the general categories of local and cosmopolitan there may exist sub-categories which differ markedly from the whole.

(b) Extension of computer information about clients

The correlations between variable CA25 and social worker characteristics in table 6.3.6 provide a much less clearcut picture on the question of the type of social worker who would be willing to see more information about clients placed on the computer. The greatest disquiet was associated with membership of the union (PE25) or the professional association (PE26) and, interestingly, with previous experience of computers in other jobs (PE05) - not a high recommendation for the security of information stored on the average computer installation! Finally there was a strong correlation between those willing to see information extended and those who believed information stored on a computer to be secure.

(c) Clients' views on computer use

Social workers were also asked (CA23) what they felt clients would think about a computer being used to store information about them. The type of social worker most inclined to feel that clients would not be worried exhibited certain "local" characteristics. They tended to be unqualified (PT03), in a low position (PX21) and not expecting much promotion (PE24). They also tended to have relatively little experience of fieldwork (PX23) - although this is not particularly a 'local' characteristic.

(d) Levels of confidentiality

A distinction was made in 5.1.8a between district and departmental confidentiality, and in 1.4.2a the possible tension between a social

worker's need to respect client confidentiality (as a professional) and to share information (as an employee) was mentioned. In one district (B3) it was interesting to find (during the course of the same section of the interview) social workers representing four separate views on the most appropriate level of confidentiality, ranging through personal, district, departmental, and national, at least in certain circumstances.

"I mean there are certain things about the client which the social worker shouldn't discuss with his colleagues apart from his senior ... Peoples' sexual problems, that sort of thing."

"Things going up to headquarters could get town-wide, you know, it can happen ... Incest cases and things like that, the whole town would like to know what's going on sometimes ... I mean with a lot of these files that's why you're not meant to take them out of the office."

"It's a basic principle of social work, a social worker is to work within a department, and the more information that is shared the better, and the less likely is the social worker's head to roll if something does go wrong."

"Information is confidential to an agency and not to a particular social worker - and when one thinks of battered babies or children at risk or whatever reason, then we are an agency that's nationwide!"

6.3.7 The Computer and the Nature of Social Work

(a) Appropriateness of a computer in social work

It had seemed possible that social workers, or particular groups of social workers, would have a mental image of "computers", and therefore a clear picture of the general appropriateness or otherwise of a computer in social work. In fact (table 6.3.7) there were no correlations at all which were significant at the .01 level between variable CA26 and social worker characteristic variables (those few which were significant at the .05 level are shown in appendix 6); but there were many strong correlations between it and attitudes to the particular system in use. Social workers who thought that computers were in general appropriate in social work tended to be those who found their particular system valuable for its printouts (CA06), client index facilities (CA09), and review forms (CA12), and also

those who preferred it overall to their previous manual system (CA14).

Did social workers' views on the general appropriateness of computers in social work stem from experience of their particular system or were views of their own system a result of their general attitude to computers? The former seems much more likely, for several reasons (see also 6.1.7b). Firstly, even if a positive view of computers caused satisfaction with their particular system as a whole (the correlation with CA14), it seems less likely that it would cause satisfaction with particular aspects of the system (the strong correlations with CA06, CA09, CA12). Secondly, social worker comments as to why they did or did not feel computers to be out of place in social work were often phrased in terms of, or clearly related to, their own particular system and experiences of it. The comments are summarised in table 6.3.7a, and it is seen that the only real difference between the two departments is that more social workers in department A felt computers inappropriate on the grounds that computers dealt in codes rather than written records, hard rather than soft information, and facts rather than opinions and judgements. But there is no obvious explanation for this difference between departments in the general use of computers other than the fact that the particular system in department A did concentrate much more on codes, hard data, etc, than did that in department B (5.1.2e, 5.1.4).

Thirdly, social workers did not appear to have any clear general image of computers formed from sources other than their own system. Even those who did tended not to see these general views as especially relevant to their particular system. Thus general images about computers were unlikely to have greatly influenced social worker attitudes towards their particular system. I asked whether social workers remembered any points about computers which had particularly struck them from books, newspapers or television. The majority were unable to mention any, and there were a good many comments such as: "I've tended to stay very clear of computers". Additionally those points which were raised (table 6.3.7b) did not correspond well to attitudes to the particular systems in the two departments and so were unlikely to have caused them: for example despite comments about "1984", "mass surveillance", etc being at the top of the list, concern about confidentiality issues was not amongst the main dissatisfactions in the two departments (6.1.5).

In summary, social workers' opinions about the general appropriateness of computers in social work were strongly related to, and probably largely caused by, their experience of their particular system. They were not strongly related to any social worker characteristic variables.

(b) Access to information by superiors

Variable CA16 (table 6.3.7) only correlated significantly with two social worker characteristic variables, PE26 and SV43, and only one of these correlations appeared reasonable: those staff who were more worried about access to information about their work by superiors tended (PE26) to be members of the professional association (and, therefore, presumably, more concerned about possible threats to autonomy - 1.4.2b). A surprising result was that those who were more worried about this also appeared to be better at form-completion - at least (CA28) they performed better in completing the mock case during interviews.

(c) Liking and disliking the computer

Respondents were asked to indicate the types of social worker who, in their opinion, did and did not "like the computer". Results were very similar in the two departments (with one difference, mentioned below, reflecting the different systems), and are aggregated in table 6.3.7c.

It might have been expected that openness to change would have come top of both lists, but in fact this fell into second place. Most importantly, social workers who are efficient and see the value of administrative work were thought to like the computer, unlike those who are disorganised and who dislike paperwork. The fact that attitudes to paperwork feature so highly ties in with Hill's conclusion (1.4.4) that social workers are "deeply concerned" over the amount of time they spend on administrative tasks.

Apart from these two characteristics, which topped both lists, there were no other types mentioned by more than six respondents as liking the computer. There were, however, several other types said to dislike it. For example, fourteen social workers mentioned people who were frightened of computers or not technically-minded - though it is interesting here to recall that there was at least one particular

group of non-technically-minded social workers (6.3.6a) who did find the computer very useful. Ten respondents mentioned people who valued a more "personal", "involved" approach to clients and/or who disliked categorising clients using codes. This characteristic was mentioned by eight social workers in department A as against two in department B, probably reflecting the differences between the two computer systems.

(d) Attitudes to paperwork and the computer

Although respondents generally felt that the more efficient social workers tended to like the computer (and vice versa) the difficulty of making generalisations is illustrated by the fact that a small number felt that the more efficient disliked it (for the reason that they were able to organise their work adequately without the computer) and a few also felt that those social workers who were disorganised tended to like it (since it enabled them to organise their work better). All four types - "organised" and "disorganised" social workers who "liked" or "did not like" the computer were identified during the course of interviewing, and the two more unusual such types are now illustrated.

One social worker whose interview was punctuated with comments such as "One particular case, a statutory one, I hadn't written it up for months" and "I'm an absolute bugger for recording - forms and things like this" thought very highly of the computer as it was now bringing more "discipline" (a word she used repeatedly in the interview) to her work. Another social worker was very self disciplined: he explained to me a manual system which he had devised to keep track of his visits and reviews, and he said (convincingly) that he nearly always managed to do his casework recording the same day. He was, however, vehemently opposed to the computer, which he felt could give him nothing that his own system did not provide. It therefore represented a very unwelcome intrusion on his time and, at the time of my visit, he had succeeded in refusing to complete even a single computer form.

6.3.8 Important social worker characteristics

The preceding sections have considered how far attitudes to particular aspects of the computer system were related to social worker background and belief characteristics. The present section considers which of the characteristic variables, overall, were most useful in discriminating between attitudes to the computer.

Appendix 6 lists all correlations significant at the .05 level or better between characteristic variables and computer attitude variables. Table 6.3.8 (whose description appears below the table itself) extracts from that appendix those characteristic variables which correlated most significantly and most frequently with computer attitude variables. Inspection of these (fourteen) variables in appendix 6 had revealed interesting results (some of which have also been noted earlier), which are more clearly illustrated in the right hand half of table 6.3.8.

It was seen firstly (as has already been noted - 6.3.2b,6.3.4) that if a characteristic variable correlated significantly with one of the computer attitude variables which dealt with the use or usefulness of the computer system (excepting use of the VDU, as was also noted in 6.3.3b) then any other significant correlations with such computer attitude variables were invariably in the same direction. The same was true of two other groups of computer attitude variables - those dealing with use of the VDU (see also 6.3.3a), and those dealing with what could broadly be termed civil liberties issues. Thus in table 6.3.8 if a particular entry contains an "f", other letters in that entry are almost certain to be "f" also (and similarly with "u"). Incidentally, these results suggest the validity of the computer attitude variables. Validity would have been in doubt had the same type of social worker appeared to take up different viewpoints, for no obvious reason, on variables measuring attitudes to similar features of the computerisation process.

Secondly, the fact that some social workers with a particular characteristic are favourable to the practical side of the computer (the first of the u/f columns in the table) does <u>not</u> necessarily imply that they will be favourable to other aspects (although - 7.2.2b - in general satisfaction with practical aspects was related to satisfaction with other aspects). Thus (PX21) staff in lower positions and (PX23) with less experience in fieldwork tended to be dissatisfied over use and usefulness of the computer - but they were also more satisfied on some civil liberties aspects, and more favourable to use of the VDU by social workers.

Overall, the two most useful variables in discriminating between social workers who were and were not favourable to the computer were those dealing with status - position in the district (PX21) and, even

more importantly, expectations regarding promotion (PE24). The more ambitious, and those in higher positions, felt the most strongly that the computer was useful in practical terms (though they also tended to be particularly worried about some civil liberties aspects).

Staff who favoured the practical aspects but were worried about civil liberties aspects or about the reasons for introducing the computer also included members of the professional association (PE26), those with more years in fieldwork (PX23), and qualified staff (PT03). Those with training in arts or social science (PT13) were particularly worried about these latter aspects but took no stand on the practical aspects. Those who favoured the computer in all or virtually all respects where there were significant correlations were those with high caseloads (PE21), those in frequent contact with headquarters (SW24)(BUT see 6.3.4), those who believed form-filling to be particularly important (SV45), and those with some training in science or management (PT04).

The results cast an interesting light on the hypothesis (1.4.1) that the nature of a social worker's training might affect their attitudes to computerisation. Variables PT03 and PT04 suggest that training in science/management and in professional social work are both related to a more favourable attitude to the practical aspects of the computer (although training in arts/social science shows no relationship either way). However professionally qualified social workers and (especially) those with arts/social science training are more likely to be worried about the civil liberties aspects. Training in arts/social science or in science/management was related to greater cynicism about the reasons for computerisation.

Finally, the one exception in the table should be mentioned. Although social workers in department A (variable PPLA) were generally less favourable to the computer, one "f" does appear. This comes from variable CA10 - staff in department A did their own form-completion much more than did those in department B. This was explained in 6.1.4d.

CHAPTER 7 CONCLUSIONS

This chapter draws conclusions from the results described in previous chapters. The chapter is a short one, frequently referring back to earlier sections which provide evidence for the conclusions.

7.1 EFFECTS OF COMPUTERISATION

The primary intention of this research was to investigate the factors which work together to determine the reception of a computerised client record system in social services district offices. This is covered in 7.2 below. However it is also of interest to consider briefly the overall benefits and disadvantages of computerisation as far as social workers in district offices were concerned - and this will be done here. No attempt is made at quantification or cost/benefit analysis - indeed it was difficult enough (5.5.6) even to ascertain the direct costs of computerisation, without trying to put a value on the more intangible costs and benefits.

In looking at the effects of the computer, only those which made a significant impact on districts, or which would have been difficult or impossible to achieve without a computer, will be considered. The effects have been categorised into benefits and disadvantages, although sometimes the dividing line was blurred and an effect had both positive and negative sides to it. It is interesting to note that several of the effects had not been anticipated when it was decided to introduce a computer, whilst other expected benefits proved disappointing.

7.1.1 Benefits and Successes

Perhaps the two main improvements felt in both departments were in work practice and in the quality of information stored. Information was now more complete and accurate than on the old card index (6.1.3b). As far as improved work practice was concerned an important factor was the regular receipt of various computer printouts - especially the caseload lists and (in department B) the client information sheet. Supervisions were more satisfactory (6.1.2c), there was a more reliable method of keeping up to date with reviews

(6.1.7f), and what several social workers called a better general "discipline" (6.1.7c, 6.1.2c). This discipline was welcomed by social workers and not seen as a threat to their autonomy (7.2.4e). It is worth noting that the computer was not so much improving existing methods of supervision, review, etc. as changing their nature (6.1.2c,6.1.7f). The potential of the computer as regards caseload management was particularly shown by the innovations in district B3 (6.2.5c).

Both departments now had the advantage that clients from all districts were listed in one reasonably reliable department-wide index (5.5.1). Department A, in addition, gained from its 'unit record' approach - the computer record for each client included all aspects of departmental involvement, unlike the previous situation where each section of the department (fieldwork, home help, etc) kept its own separate records (5.1.1). Confidentiality considerations were threatening plans to introduce this approach in department B (5.1.8d). However although these two innovations may have been useful at headquarters there was no evidence that they had made a big impact at district level at the time of my visit.

In department B two further benefits had occurred which would have been difficult to achieve without a computer - the presence of an always fully up-to-date "top sheet" in each file (6.1.4e), and the new "file destruction policy" (5.1.8c).

7.1.2 Disadvantages and Failures

A serious initial problem in both departments was the disruption to existing procedures and the dissension over the necessity for computerisation which was experienced during development and implementation, fed by the widespread suspicions regarding the reasons for the project (6.1.5c, 5.5.2). These problems were most marked in the more mechanistic districts (6.2.2, 6.2.3c), with new lines of demarcation having to be drawn. Note too that even in areas where the computer brought benefits the transition could cause serious problems and misunderstandings (eg over reviews - see last quote in 6.1.7d).

A second problem - especially in view of its initial "oversell" (5.4.2) - was the disillusion experienced by many social workers over the performance of the visible symbol of computerisation - the VDU. It was (6.1.3) slower to use (especially in department B) than the

card index it replaced, and it was more frightening - and social workers were therefore more reliant on administration staff to find out information for them. This was less serious in department B, owing to the unexpected success of the computer-printed client index (6.1.3c,d).

A more intangible worry was that the computer was becoming a "master" and leading to more rigid procedures (6.1.7d). There was a certain degree of concern over threats to social worker autonomy, but this only surfaced much in department A, where the computer was seen more as a tool for management than it was in department B (6.1.7c,e).

Apart from the improved quality of information (7.1.1) the computer also changed the type of information being recorded. This was not necessarily a disadvantage, but appeared to have happened as a side-effect of the particular design of each system - not as a result of deliberate policy (5.5.4a). In department A there was a much greater use of codes than previously and some evidence that rather less narrative information was being entered in files (6.1.4e). Secondly many of the "comments" previously entered on cards in the card index were now not entered on the computer (6.1.3b(i)). Finally, the problem of the consistency of interpretation of codes (not specifically a computer problem, but aggravated when the amount of coding increases) had not been considered in any detail (6.1.4c(ii)).

7.2 RELEVANCE OF VARIOUS FACTORS IN THE RECEPTION OF THE COMPUTER

7.2.1 The Method of Implementation (and its Relationship to Conventional Wisdom)

Of the four factors (1.3.1) considered in this research as being likely to affect the reception of the computer in district offices, only the method of implementation (and, to a lesser extent, the nature of the system) had received much attention in the literature on social services computer applications. This attention had led to a conventional wisdom (3.4) on how to succeed in computerisation. The relationship to this conventional wisdom of the two projects was described in 5.5.3b. The present section considers how far conventional wisdom was supported by their experience, and describes

some further elements which could usefully be added to it. These new and original elements (3.4) are underlined below.

The design of department B's system made it a better operational aid for social workers than department A's, and this certainly made it more acceptable (6.1.5b, 6.1.7e for general comments; 6.1.2-6.1.4 for specific examples). However conventional wisdom in this area should be expanded. Not only must the system be intended to provide benefits to social workers, but it must be easily useable by them - it must, as far as possible, be self-explanatory to use. In theory department A's system provided as many or more operational benefits to social workers as did department B's, but its design meant that many of these potential benefits were not fully exploited (6.1.2b, 6.1.2d, 6.1.4c(i)).

The motivation behind the introduction of a computer was the cause of much suspicion amongst social workers (6.1.5c). Attempts at consultation were not very successful in either department, although rather more so in department B, for reasons given in 5.4.2. However one of the main objectives of consultation - to obtain input from potential users so that the design of the system is appropriate for them - was achieved relatively successfully in department B by an alternative method, the 6-month placement of the computer consultant in the department as a social worker before system design even began (5.5.4a). The education and persuasion exercise was conducted very intensively indeed in districts A1 and A2 (it had been recognised that the nature of the system really demanded this - 5.1.3e) and this without any doubt increased the general acceptability of the computer to those social workers (6.1.5a,d, 5.4.3a). However the intensity of the exercise was too consuming of time and personal energy for it to be repeated by project staff in all districts. Training in use of the system was inadequate in both departments (5.4.4, 6.1.2d) but this was less serious in department B (6.1.2d, 6.1.4b) where the system was more self-explanatory.

Conventional wisdom in these areas should be expanded in two directions. Firstly it must be remembered that oversell in the early stages (5.4.2) can lead to problems later on. Disillusion over the performance of the VDU for example (6.1.3b(ii)) happened at the worst possible time, when the system was first coming into operation in districts. The one district where this was not a problem, or at least

a disappointment, was the one where no VDU was present (6.2.5d)! Secondly the concept of training should be widened to include guidance in how to make use of the system. Conventional wisdom, in concentrating on 'education' (informing social workers of the intended benefits) pays insufficient attention even to the mundane but vital tasks of practical training in the basic mechanics such as form-completion. However, beyond such training, staff should be guided as to how to reap benefits from the system. Although it is true that the nature of supervisions was changing, and that social workers' activity was coming to include a more conscious effort at caseload management (7.1.1) this was happening in ad-hoc and uncoordinated ways (eg note the varying uses of the computer by different seniors in 6.3.2c) with little guidance for the staff involved. Whilst it can be argued that such guidance has to wait until the system has settled down there was a clear unfulfilled demand for such advice in both departments visited. The lack of guidance was equally marked in the computer documentation (5.4.1, last paragraph).

Neither department tried to insulate social workers from the system, though department B did minimise its impact by prior implementation of the referral form and category codes (5.4.3). Whilst this may have helped to some extent the self-explanatory nature of the system was more important. The idea that social workers should be insulated from the system because of their supposed hostility or inability regarding form completion is misguided. Form completion problems arose more through bad form design than through social worker fault (6.1.4c(i)).

The all-in-one approach adopted in department A and the incremental approach in department B resulted as much from outside pressures as from policy (5.3.1). At the time of my visit it was too early to choose between them. Certainly department A experienced the severest problems of social worker acceptance and use, but these appeared related more to the design of the system (particularly its lack of self-explanatoriness) than to its scope. Department B was able to modify its simpler system to cope with programming deficiencies shown up during implementation (eg inadequate validation - 5.5.5b) more easily than department A where many more types of information were stored (5.1.3d, 5.1.2c). However concern over confidentiality in department B threatened (5.1.8d) to prevent extensions to the system being made in the most useful way, a problem which would probably not

have arisen had the computer consultant been asked to design an all-in-one system in the first place.

Management commitment by the social services and the computer section directors was strong in department A, and the project structure within social services ensured that (5.3.1) any doubts amongst the assistant directors were unlikely to hinder the project. In department B there was commitment from the social services director and, especially, the computer company (5.5.2a), but there was an initial period of 'drifting' when no adequate structure had been set up to carry the project through (5.3.2). Such an innovative project requires that management commitment is very clearly demonstrated through a project group which is delegated with considerable powers, as was the case initially in department A and eventually in department B.

In both departments computer experts were seconded for the projects. This was very helpful in both cases but especially so in department B (5.5.4a) where the consultant had a wider technical knowledge of the capabilities of computers and where a 6-9 month period of acclimatisation was spent in the department prior to system design beginning. It should be noted that continuing technical advice to support and develop the system is likely to be needed for a considerable period (5.5.4c). Both departments suffered technical problems (5.5.5) of various sorts, and some of these could have been avoided by obtaining independent technical advice - a second opinion on what was proposed and on what other options existed. Senior officers in both departments referred to the difficulty of judging such matters when they had no knowledge of computers (eg end of 5.1.8d). Such advice might have resulted in a system more immediately acceptable to social workers in department A (5.5.4a) and in department B it might have avoided problems which appeared to stem from company interests (5.5.4b, 5.5.5b).

Finally it was recognised in the literature that social workers might fear that the computer would pose a threat to their autonomy. The only solution offered by conventional wisdom was a suitable education exercise (3.4.2c). In fact (7.2.4) although such fears were present (particularly in department A where the system was seen more as a tool for management and administration) they were less strong than might have been expected.

7.2.2 Relationship between the Nature of the System and its Reception

This section considers the effect of the nature of the system on attitudes to it and uses made of it by social workers. In 7.1 the main benefits and problems of computerisation were summarised but the present section only considers those aspects where a difference between the nature of the system in the two departments had resulted in different attitudes and/or uses developing.

(a) Attitudes to and uses of specific aspects of the system

In summary the system was more used by, and seen as more useful to, social workers in department B than department A (6.1.5b). This resulted primarily from the simpler and more self-explanatory nature of department B's system (7.2.1, 5.5.5). Some specific examples are now given.

The more convenient design of caseload lists resulted in greater use by social workers (6.1.2b) and seniors (6.1.2c). The automatic printing of a client information sheet in department B after a change of client information on the computer (compared to the hard copy which had to be specially requested in department A - 5.1.2b), the fact that it formed an always up to date top sheet in casefiles, and its relatively easy to read design (with very little use of coding), made it much more useful as a reference document in casefiles (6.1.4e) than its equivalent (the review form) in department A.

The design of the forms led to worse form-completion in department A (6.1.4b, 6.1.4c(i)) with one interesting exception (6.1.4c(i)) which confirmed that the quality of form completion resulted primarily from the design of the forms rather than from any lesser ability of social workers there. The dissatisfaction over computer forms in department A also resulted in continued use of pre-computer forms and complaints that work had to be duplicated (6.1.4f). In department B social workers were more aware of how to amend information on the computer, and were more likely to use the intended method (despite better training in at least two districts in department A), and this resulted in good part (6.1.2d) from the simpler forms and the automatic return of the client information sheet. On the other hand social workers in department A were much more likely to do their own coding - as a result of the "code consciousness" engendered by the design of their system (6.1.4d).

Finally, although the VDU was not much used by social workers in either department, it was more used in department A. The client index, however, was little used in department A but widely used in department B. Overall more social workers obtained information about callers directly from computer sources (client index or VDU), rather than by asking admin staff, in department B than in department A. These differences resulted from the design of the client index and the method of looking up information on the VDU in the two departments (6.1.3c,d).

(b) Other comments on relationship between nature of system and attitudes/uses

Staff favourable to the system in one of its 'practical' respects (forms, reports, VDU/client index, amount of paperwork, etc) tended to favour it in other such respects (the one exception was use of the VDU - 6.3.3b,6.3.8), to be more satisfied with the computer overall (6.3.2b, 6.3.3b, 6.3.4, 6.3.5), and also to be more favourable to the question of the general appropriateness of computers in social work (6.3.7a). There was evidence (6.3.7a) that these general views resulted from social workers' experience of their particular system.

Secondly, the effects of the nature of the system on uses made of it and attitudes to it emphasise the importance of even small design points. The fact that in department B a printout of all computer information held on a client was automatically returned to the relevant social worker whenever information on that client was changed, rather than having to be requested specially as in department A, was a minor difference in terms of the computer program but had a major effect on its impact ((a) above). The lack of an adequate validation program for input data in department B (5.5.5b) was a source of much unnecessary irritation to social workers and administrative staff. The fact that social workers rarely amended codes in department B (6.1.4d) and rarely utilised the encoded information could in my opinion have been avoided or greatly alleviated by the simple means of printing not just the code itself, but also its meaning, on the CIS (appendix 8). A further interesting example was the development of unanticipated innovative uses of the computer in department B but not department A. The different designs of the two systems were certainly one, though not the only, factor in this divergence (5.1.3f, 6.1.2e).

Thirdly social workers in department A were much more of the opinion that their system was for the benefit of management and administration (rather than of social workers) than were those in department B. There were several reasons for this (6.1.5b,d, 6.1.7e) but the nature of the system (with forms and printouts appearing more 'statistical' and less designed around the needs of social workers - 6.1.4a) was undoubtedly one. A partial consequence of this view of the system was (6.1.7e) that social workers were more concerned about threats to their autonomy from use of computer information by management.

7.2.3 Relationship between District Organisation and Computer Reception

As was expected each district developed its own individual overall attitude towards the computer (6.2.3f, 6.2.4f, 6.2.5f for districts B1-B3). This section considers the relationship between the organisation of a district and its reception of the computer.

(a) The organic/mechanistic distinction

In 6.2.2 some evidence of a general nature is presented which suggests that the more organic districts were more easily able to adapt to computerisation than the more mechanistic. Although this evidence is limited it is strengthened by evidence from districts B1 (particularly mechanistic - 6.2.3a) and B2 (particularly organic - 6.2.4a) showing how the relationship between organisation and attitude was revealed in practical terms.

One of the hallmarks of mechanistic organisation is the clearcut division of labour and therefore, as would be expected, responsibility for the computer in district B1 had been pigeonholed - it had fallen on the shoulders of the administration staff (6.2.3d,c). By the time of my visit this was generally accepted, but the demarcation of boundaries was still in an unsatisfactory state. Seeing operation of the computer as the responsibility of administration, social workers had less interest than those in other districts in using the computer reports and in keeping computer information up to date (6.2.3e). However, since it is social workers who know the current status of cases it is essential that they are involved in correcting and updating, and there was evidence that computer information here was already less reliable than in other districts (6.1.2c). The problem would have been less serious had the pressure on the administration

staff not been further increased by the prolonged illness of one of their two senior members. These two pressures had resulted in the admin renouncing some of their previous tasks such as making up social worker files (6.2.3c), and although social workers appreciated some of the pressures on the administration they were unhappy at such enforced additions to their paperwork. Although this account concentrates on the demarcation of boundaries other factors too were involved - for example the severe hardware problems (5.4.3b), the fact of being the pilot district, and a strong cynicism about the background to computerisation (6.2.3f).

In district B2 there were no similar problems over roles. This was noticeable as regards use of the VDU (6.2.4d) and the approach to code completion (6.2.4e), where who did what depended on individual preferences and abilities as much as on job titles.

(b) Special factors

Although district B2 was considerably more favourable to the computer than district B1, it was less so than district B3 - even though the latter fell between B1 and B2 on the organic/mechanistic continuum. This was due to special factors in the organisation of district B3. The first - the absence of a VDU from the office (4.3.3) - was purely fortuitous and the district at the time of my visit remained keen that they should obtain their own VDU - the symbol of computerisation - as soon as possible. The second was the innovative role played by the admin staff (4.3.5) in conjunction with the district officer. The first factor led to unusually satisfactory arrangements for finding out whether a caller was known to the department (6.2.5d), whilst the second led to various innovations (6.2.5c,d) which enhanced or made obvious the benefits for social workers of computerisation.

Other special factors were present in some districts, and these were summarised in 6.2.1.

(c) Aspects of departmental structure affecting district reception

A few aspects of the reception of the computer in districts appeared to vary in part according to organisational differences between departments - the greater autonomy and the greater administrative assistance given to districts in department B (4.1.2b,c) - although the evidence was not very conclusive. These factors were influential in the introduction of innovative uses of the caseload list (6.1.2e)

and the greater administrative support may have assisted in the better form completion (6.1.2d, 6.1.4c(i)). In both cases however (and especially the latter) the design of the system was an important factor.

The already low degree of autonomy of districts in department A may have aggravated the fear there that access to computer information by management would be an infringement (6.1.7e) - but again a more important cause seemed to be the view of social workers that the system was intended to benefit management and administration more than social workers, this view deriving largely from the nature of the system (7.2.2b).

Finally, the greater autonomy of districts in department B over training was partially responsible for the less adequate training in the use of the computer (5.4.4). The senior fieldwork supervisors, responsible for district training, were not themselves knowledgeable as regards the computer - indeed at least one was frightened of it - but at the same time the project staff were wary of trespassing too far by instituting formal training at district level.

7.2.4 Relationship between Social Worker Characteristics and Computer Reception

(a) Introduction

This section considers how far the reception of the computer was influenced by characteristics of individual social workers. No one type of social worker emerged who consistently favoured the computer in all respects - but different types were identified who were especially favourable to particular aspects.

In 1.5.3 the close relationship between individual characteristics and organisation was pointed out and examples were quoted to show how organisation could affect beliefs and vice versa. This must dictate caution in any attempt to read too general conclusions into the results of this section. Certainly, different individuals in the same district could react very differently to the same computer system (district A4, where leadership was weak, was an excellent example - 6.3.2c) but this gives no assurance that the same individuals would behave the same way in another district where office ethos (in general and as regards the computer) was different (For example, the senior in district A4 who had just had a "change of heart" might well have

learnt to use and favour the computer from the start had his district officer given an appropriate lead).

The lack of success of the characteristic variables in obtaining significant correlations with attitudes to the computer (appendix 6) should be noted. Not one such variable correlated at the .01 significance level with more than six of the 22 computer attitude variables, and only one correlated at this level with more than four. There was evidence to suggest the validity of the computer attitude variables (6.3.8), but despite this even the most successful characteristic variables, such as those concerning status, sex, professional qualification, etc (most of which were likely to have reasonable validity by virtue of their 'concreteness') obtained few significant correlations. This would tend to support the view (1.5.3) that such characteristics cannot be seen in isolation as important causal factors, but are part of a wider pattern of interactions within the life of each social worker and within the "arena" of the life of the district office.

(b) Cosmopolitans and locals

Gouldner's conclusion (1.4.1) that his concepts of "cosmopolitan" and "local" were general ones and often had to be further refined into sub-types to make full sense of some particular result is comforting here. Various types of social worker were found who exhibited particular attitudes towards certain aspects of the computer system and who were similar only in some or most respects to an "ideal" cosmopolitan or local. This was indeed what had been expected when it was decided (A3.4.2) to use elements from the cosmopolitan/local (and other) concepts rather than trying to use each concept as a whole.

Like Hebden et al (1.4.1) it was found that staff who had an overall preference for the computer as compared to the previous manual system tended to be near the cosmopolitan ideal in most respects (6.3.5a) but, interestingly, those who said they had become more favourable to the computer since its introduction tended to be more local. The hypothesis (1.4.1) that social work training might cause hostility to the computer was shown to be false as regards the practical aspects of the computer (eg 6.3.2a) - but training in professional social work and in arts/social science was related to dissatisfaction over civil liberties aspects (6.3.8).

The importance of status was revealed. The two most helpful variables in distinguishing individuals who felt the computer to be useful (6.3.8) were position in the district and future career expectations (an important aspect of the cosmopolitan ideal) - although such respondents had doubts about civil liberties aspects.

One other area where types emerged around these concepts was regarding the security of information on the computer. Here those who were most satisfied with security (6.3.6a) and those who thought clients least likely to be worried about information being stored on a computer (6.3.6c) both exhibited certain local characteristics. Their belief in security, however, appeared to be based on a lay view that computers were very technical and a trust (not surprising for people with local tendencies) of the department's safeguards regarding confidentiality.

(c) Professionals - definition by characteristics

As with the cosmopolitan/local distinction, correlations between attitudes to the computer and characteristic variables revealed types of social worker near the professional ideal only in some respects.

The question of usefulness of caseload lists (and this was the area where the computer had taken its greatest hold amongst social workers - 6.1.2b,c) picked out the more professional staff as being the most favourable (6.3.2a) to the computer. It was shown that this was not just because the more professional tended to be seniors (who found the lists the most useful - 6.1.2c). However professionally qualified staff and members of the professional association, despite being particularly favourable to the practical side of the system, were at the same time worried about possible infringements of their and clients' rights (6.3.8).

One type of professional - those sympathising especially with the trends in social work theory which emphasise the role of the client in casework - was found to be particularly cynical about the reasons for the introduction of the computer, but this type also displayed a general questioning of authority (6.3.5b).

(d) Confidentiality

Belief in confidentiality is an important value held by professionals (1.4.2), and it was found (6.3.6b) that members of the professional association were particularly worried about the extension of computer information to include more details from casefiles.

However there was no evidence that such social workers were worried about the security of information stored on the computer (6.3.6a), and it may therefore be that the worry about extension was as much a reaction by professionals against a possible reduction in their control over their own work: certainly they exhibited greater concern than other social workers about increased access to information by superiors (6.3.7b).

Those social workers who were most happy about the security of information on the computer (as compared to a manual system) were a certain group of locals with particular loyalty to their department (6.3.6a). They felt "professional standards" important, but departmental loyalty appeared to be a stronger motivation. Despite trusting in the security of the computer they were very much 'lay' as far as technical matters were concerned (7.2.4b). This corresponds to the finding (6.2.3g, 6.2.4g, 6.2.5g) that in department B (although not in department A where the VDU had a more important role in all districts - 6.1.3c) the districts in which social workers were happiest about the extension of computer information and about the security of information on the computer were in general those where social workers had least contact with the VDU. Despite these particular findings there was (6.3.6a) no general relationship between non-use of the VDU and belief in its security.

(e) Social worker autonomy

The more recent definition of a profession as an interest group (1.4.2b) suggests that professionals will above all seek to retain control over their own work and its outcome. However the suggestion of social work being a semi-profession (1.4.2b), with chains of accountability limiting professional autonomy, was generally supported by this research. Many social workers (as Beswick found - 1.4.2a) were pleased with the extra "discipline" (a word used favourably by several social workers) imposed by the computer. Few (6.1.7c) saw increased access to information by superiors as an infringement of their rights (although some did mention other more intangible respects in which the computer reduced their control over their own work - 6.1.7d). In noting this conclusion it should be remembered that the level of professional qualification in both departments was fairly low, and the same results might not hold in departments with a high proportion of professionally qualified staff.

It is however true (6.3.2a) that although the computer made access to information by superiors easier it also in some important respects gave social workers more control over their own work: they were able to undertake their own caseload management more effectively (6.1.2b). Furthermore the tighter control exercised by seniors could be seen as professional supervision (6.1.2c) rather than as administrative control. In these respects the computer could be seen as an aid rather than a threat to professional activity.

Despite the above results there was concern in certain groups about infringements and loss of control resulting from greater access to information by superiors. This was most marked amongst members of the professional association (6.3.7b - and see (d) above) and amongst staff of department A (6.1.7e). In both cases, and especially the latter, there was evidence from interviews to suggest (6.1.6b,6.1.7c) that the main worry was about greater access by superiors at headquarters rather than by seniors.

(f) Characteristics specific to social workers

Apart from the more generally applicable identities of professional and cosmopolitan/local, it was possible that different views of the nature of social work (1.4.3) might affect attitudes to or uses of the computer. Little convincing evidence of this was found.

Social workers who were particularly cynical about the reasons for introducing the computer tended to place a high importance on the role of the client in casework activity (6.3.5b). However this is probably an indirect relationship since there was evidence suggesting that this type of social worker was more likely to question authority generally.

Staff who were particularly favourable to use of the VDU by social workers as well as by admin tended to take a particularly "individualistic" (1.4.3b) view of social work. Again however this probably stemmed from other characteristics: this group of social workers also tended to have had previous training and/or experience in science, management, or industry (6.3.3a). Incidentally previous experience of this type also cropped up in one or two other areas: in particular (6.3.5a) recruits from industry tended to favour the computer overall as compared to the previous manual system.

(g) Social workers and paperwork

The common dislike of social workers for paperwork, which many feel keeps them away from their 'real' work of contact with clients, was

discussed in 1.4.4. The computer was closely related to paperwork and administration in social workers' minds (6.3.7c) and there was a common (though not unanimous) view that the more efficient social workers liked the computer most whilst those who were bad at paperwork and administration disliked it (6.3.7d). However although form completion was seen as onerous the computer also brought benefits regarding paperwork through its printed reports, and generally social workers appreciated that one was impossible without the other.

There was considerable evidence that caseload lists produced by the computer assisted many social workers with paperwork: those staff who used them most and found them most useful tended to be those for whom paperwork was particularly extensive or important (6.3.2a); and one of the main reasons for liking the caseload lists in department B was that they removed the need to keep manual ones (6.1.2b, 6.2.5c).

As far as form completion was concerned most social workers felt that no more time was involved than before (6.1.4a), and others felt the benefits compensated for any extra time spent (6.2.4e). Satisfaction with the computer over time spent on paperwork went along with satisfaction in other respects (6.3.4). Similarly the two districts which felt most strongly that the computer entailed more time in form filling (districts A3 and B1 - 6.2.3e) were the two where general dissatisfaction with the computer was greatest. It was unlikely that this was caused by the form filling since the evidence suggested that if anything they spent <u>less</u> time on it than did social workers in other districts (6.2.3e). Rather, their general dissatisfaction with the computer made its paperwork aspects seem more onerous.

7.3 SUMMARY

The two main benefits of computerisation for district offices were (7.1.1) improved work practice and better quality information. Perhaps the worst problem (7.1.2) was the disruption experienced during implementation; whilst the greatest disappointment concerned the symbol of computerisation - the VDU.

It is not possible completely to disentangle the interplay of the various factors which determined the reception of the computer; but the most influential was certainly the nature of the system. There was very clear evidence of the way in which this happened (7.2.2a) and a particularly convincing point was the fact that although department B was generally more favourable to the computer this position was reversed in a few respects which followed directly from the design of the system. The importance to users of what to the system designers might be quite minor points was noted (7.2.2b).

All three other factors investigated - the method of implementation, the organisation of districts, and the characteristics of social workers - were found to have some influence on the reception of the computer. As far as method of implementation was concerned, conventional wisdom was found to be deficient (7.2.1) in failing to point out the importance of a self-explanatory system, in failing to emphasise the dangers of 'oversell', and in not emphasising the need for guidance in how to use the system.

Districts with a more organic structure were generally found to be more suited to computerisation (7.2.3), although special factors in particular districts were sometimes more influential. As far as the social worker characteristic variables were concerned (7.2.4) these did not suggest great differences in how different types of social worker respond to the computer. The most influential such characteristic appeared to be status: staff who found the computer system most useful tended to be in higher positions, to have higher career expectations, and, more generally, to display other cosmopolitan and professional characteristics. However these types were also the most dissatisfied as regards civil liberties aspects.

Finally, a comment on the suggestion (3.4) that the failure of some early systems could be put down to "sabotage" by social workers. In my study virtually no evidence at all was found to suggest active hostility to computerisation: few social workers were enthusiastic, but most were certainly willing to give it a try. The reason why, despite this, their performance was frequently poor was quite irrelevant to their attitudes: unsatisfactory use of the system usually resulted from inappropriate system design, lack of self-explanatoriness of the system, and inadequate guidance in its use.